

IMPACT ON THE NATIONAL ECONOMY OF REPEALING THE EXPENSING OF INTANGIBLE DRILLING COSTS

Introduction

This study examines the impact on Montana's economy of repealing the expensing of intangible drilling costs. Under current tax law, intangible drilling costs (IDC's) are defined as expenditures that in themselves do not have salvage value and are incident to and necessary for the drilling of wells and the preparation of wells for the production of oil and natural gas. Examples of intangible drilling costs include wages, fuel and other supplies used in preparing to drill wells, and in drilling and completing wells. In contrast, the costs of steel tubular goods, valves and other equipment with salvage value are considered tangible equipment and must be capitalized for tax purposes.

Currently, intangible drilling costs may be deducted in calculating taxable income for the year in which they are incurred. However, under a recent proposal by the Treasury Department, intangible drilling costs would be capitalized, thus requiring the tax deductions for these expenditures to be spread out over the productive life of the well. Under this proposal, which, if enacted, would be effective for costs paid or incurred on or after January 1, 1986, the effect would be to greatly reduce the amount of cash available for drilling.

Major Findings

The study found that repealing the expensing of intangible drilling costs would have the following results, on average, during the 1986-91 period:

- drilling expenditures would be reduced by \$75,823,604 annually;
- 3,791 jobs would be lost due to reduced drilling;
- 217 fewer oil and gas wells would be drilled each year;
- drilling rigs operating would be reduced by 16 yearly;
- additions to domestic oil and natural gas reserves would be reduced 37,913,809 barrels of oil equivalent (oil and natural gas, where one barrel of oil is the energy equivalent of 5,800 cubic feet of gas) during the six year period;
- daily oil and natural gas production would fall by 5,122 barrels of oil equivalent;

- annual revenues from oil and gas sales would fall by \$36,696,672;
- state tax receipts from oil and gas production would fall by \$2,200,989 annually.

Background on Expensing IDC's

Under current law, oil and gas producers have the right to elect to expense IDC's as incurred or to capitalize them. They may also elect to expense only the IDC's on dry wells and to capitalize the IDC's on productive wells. If capitalized, the costs are recovered through depletion and depreciation. No investment tax credit is allowed for IDC expenditures.

Normally, oil and gas producers elect to expense IDC's in the year occurred, as this increases their after-tax cash flow. Because of the time value of money, a tax benefit allowed in year one is obviously worth more than the same tax benefit spread out over several years.

Impact on After-Tax Cash Flow

Tables One through Five calculate the total tax benefits allowed for drilling a typical well at a total cost of \$590,000 under current law and under four proposed changes in the current law. This total expenditure consists of \$400,000 spent on IDC's; \$140,000 spent on equipment and depreciated over a ten year period; and, \$50,000 spent on leasehold and depleted over the same ten year period. Note that on Table One, Current Law, the tax rate is 50% and IDC's are deducted in year one. Table Two shows that under the Kemp-Kasten proposal, the tax rate is reduced to 25%, but IDC deductions are spread over a three year period. Table Three shows that the Brandley-Gepheardt proposal sets the tax rate at 30%, but requires IDC expenditures to be depreciated over the productive life of the well, in this case assumed to be ten years. Table Four, Treasury Proposal Without Indexing, sets the tax rate at 35% and treats IDC's the same as the Bradley-Gepheardt proposal. Table Five, Treasury Proposal Including Indexing at 6% Annual Rate of Inflation, shows the same tax rate and treatment for IDC's as in Table Four, except the cost basis is adjusted each year for inflation, thus increasing the amount of the deductions allowed in years two through ten.

Compared to present law, each of the four proposed changes would reduce the tax benefits available to the producer in year one. Although most of the tax benefits in years two through ten would be somewhat higher under the four proposed changes, these increases would not be enough to restore the tax benefits available in year one under current law.

Table Six, Evaluation and Dollar Comparison of Total Tax Benefits Under the Various Flat Tax Proposals, summarizes the total tax benefits as calculated in Tables One through Five and compares the tax benefits, in dollars, of the current law to those that would be available under the four proposed changes. Note that in year one the producer's tax benefits are reduced by \$192,100 to \$200,300 under the four proposed changes, so the lower overall tax rates do not offset the reduced IDC deductions.

Table Seven, Evaluation and Percentage Comparison of Total Tax Benefits Under the Various Flat Tax Proposals, uses the same total tax benefit data discussed above, and shows the percentage reduction in current tax benefits under each of the four proposed changes. Note that in year one, the total tax benefit from a \$590,000 drilling expenditure drops by more than 32% in each case.

Table Eight, Evaluation and Comparison of After-Tax Cash Flow Using the Total Tax Benefits Under the Various Flat Tax Proposals, assumes a producer has \$590,000 of income which he uses to drill a well. The drilling expenditure generates various tax deductions under the current law and the four proposed changes, resulting in the after-tax cash flow shown in Table Eight. The largest reduction, \$103,600 or 17.56%, occurs in year one under the Treasury proposal, with or without inflation indexing. Even though the Producer's cash flow would be increased by 4.32% in year two under the Treasury proposal with indexing, his tax benefits for new expenditure made that year would once again be 17.56% lower than under current law. So, under the Treasury proposal, the after-tax cash flow of the producer who drills new wells each year would never catch up with the amount he could expect under current law.

Impact on Montana Economy

The impact on the Montana economy of repealing the expensing of intangible drilling costs is assessed by taking the effect on the producer's after tax cash flow from an average well, as analyzed above, and applying the results to overall petroleum industry figures.

Table Nine, Montana Analysis of the Impact of the Proposed Tax Treatment on Intangible Drilling Costs on Drilling Expenditures, Wells Drilled, Employment and Reserves Found - 1986-1991, shows the historical expenditures for domestic drilling for 1980 through 1983, as reported by the Joint Association Survey. Under current law, 1986-91 drilling expenditures are forecast to remain at the 1983 level. Presently, approximately 38% of the funds available for drilling is obtained from outside the petroleum industry from sources such as investors and bank loans. Approximately 62% of the funds available for drilling is generated within the industry from oil and gas revenues.

For an investor, the ability to expense two-thirds or more of his investment in oil and gas drilling during the first year is a major incentive for putting his dollars at risk. Falling oil and natural gas prices during the past two years have already made it more difficult to raise outside capital, through either debt or equity means. If a worthwhile yet high risk investment has no better tax treatment than a safe investment, the investor may as well play it safe. Thus, third party funding is forecast to drop by one-half in 1986 under the Treasury proposal.

The economic analysis forecasts that, if the Treasury proposal were enacted, drilling expenditures in 1986 would drop \$67,000,000. The reduction would be due to uncertainty within the industry and reduced funding from outside investors and lenders. After 1986, industry expenditures on domestic drilling are forecast to remain at 1984 levels, adjusted by the percentage change in after-tax cash flow, as calculated on Table Eight for the Treasury proposal.

Economic research has found that a reduction in drilling expenditures of \$1,000,000 results in the loss of fifty jobs. Therefore, the 1986-1991 yearly average of \$75,823,604 in reduced drilling expenditures would result in 3,791 jobs lost.

At an average cost of \$371,721 per well, these reduced drilling expenditures would mean that 217 fewer oil and gas wells would be drilled each year, and 16 fewer rigs would be running annually. Based on an average finding cost of \$12 per barrel of oil equivalent, reserve additions would be reduced by 37,913,809 barrels of oil equivalent during the six year period.

Because of the reduced drilling, daily production would drop by an average of 5,122 barrels of oil equivalent. At an average price of \$19.63 per barrel of oil equivalent, the reduced production would result in an average annual reduction in oil and gas sales of \$36,696,672. Revenues from state production taxes, at an average tax rate of 8% would drop \$2,200,989 annually.

The impact on the Montana economy is illustrated by Charts One through Seven, each headed Montana Impact of IDC Tax Proposal. Chart One, Comparison of Drilling Expenditures Yearly, shows historical drilling expenditures from 1980 through 1984, then compares the forecast of domestic drilling expenditures under current law to the forecast for expenditures under the Treasury Proposal. The remaining charts show the 1986-1991 annual impact on drilling expenditures, employment, wells drilled, rigs in operation, reserves added, and daily production.

Tax Benefits From Drilling Expenditures Available Under
Current Law

Table One

Year	IDC	Depreciation	Depletion	Total Deductions	Tax Benefit At 50% Rate	Investment Tax Credit	Total Tax Benefits
1	400,000	21,000	7,800	428,800	214,400	11,200	225,600
2	0	30,800	11,700	42,500	21,300	0	21,300
3	0	29,400	8,300	37,700	18,900	0	18,900
4	0	29,400	7,300	36,700	18,400	0	18,400
5	0	29,400	6,300	35,700	17,900	0	17,900
6	0	0	4,700	4,700	2,400	0	2,400
7	0	0	2,200	2,200	1,100	0	1,100
8	0	0	1,100	1,100	600	0	600
9	0	0	400	400	200	0	200
10	0	0	200	200	100	0	100
TOTAL	400,000	140,000	50,000	590,000	295,300	11,200	306,500
Net After Tax Present Value at						12.00%	255,800

IDC =	\$400,000
Equipment =	\$140,000
Leasehold =	\$50,000
Total Expenditures =	\$590,000
Tax Return =	50.00%

Year	IDC	Depreciation	Depletion	Total Deductions	Tax Benefit At 25% Rate	Investment Tax Credit	Total Tax Benefits
1	100,000	21,000	12,500	133,500	33,400	0	33,400
2	152,000	30,800	19,000	201,800	50,500	0	50,500
3	148,000	29,400	18,500	195,900	49,000	0	49,000
4	0	29,400	0	29,400	7,400	0	7,400
5	0	29,400	0	29,400	7,400	0	7,400
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
TOTAL	400,000	140,000	50,000	590,000	147,700	0	147,700

Net After Tax Present Value at 12.00% 113,900

IDC = \$400,000
Equipment = \$140,000
Leasehold = \$50,000
Total Expenditures = \$590,000
Tax Return = 25.00%

Year	IDC	Depreciation	Depletion	Total Deductions	Tax Benefit At 30% Rate	Investment Tax Credit	Total Tax Benefits
1	50,000	28,000	6,300	84,300	25,300	0	25,300
2	87,500	44,800	10,900	143,200	43,000	0	43,000
3	65,600	26,900	8,200	100,700	30,200	0	30,200
4	49,200	16,100	6,200	71,500	21,500	0	21,500
5	36,900	9,700	4,600	51,200	15,400	0	15,400
6	27,700	5,800	3,500	37,000	11,100	0	11,100
7	20,800	3,500	2,600	26,900	8,100	0	8,100
8	15,600	2,100	1,900	19,600	5,900	0	5,900
9	11,700	1,200	1,500	14,400	4,300	0	4,300
10	35,000	1,900	4,300	41,200	12,400	0	12,400
TOTAL	400,000	140,000	50,000	590,000	177,200	0	177,200
Net After Tax Present Value at						12.00%	118,000

IDC = \$400,000
 Equipment = \$140,000
 Leasehold = \$50,000
 Total Expenditures = \$590,000
 Tax Return = 30.00%

Treasury Proposal Without Indexing

Table Four

Year	IDC	Depreciation	Depletion	Total Deductions	Tax Benefit At 35% Rate	Investment Tax Credit	Total Tax Benefits
1	62,600	25,200	7,800	95,600	22,500	0	33,500
2	93,900	20,700	11,700	126,300	44,200	0	44,200
3	66,100	16,900	8,300	91,300	32,000	0	32,000
4	58,400	13,900	7,300	79,600	27,900	0	27,900
5	50,100	11,400	6,300	67,800	23,700	0	23,700
6	37,600	9,300	4,700	51,600	18,100	0	18,100
7	17,400	7,700	2,200	27,300	9,700	0	9,600
8	8,700	6,300	1,100	16,100	5,600	0	5,600
9	3,500	5,100	400	9,000	3,200	0	3,200
10	1,700	23,500	200	25,400	8,900	0	8,900
TOTAL	400,000	140,000	50,000	590,000	195,800	0	206,700
Net After Tax Present Value at						12.00%	138,900

IDC = \$400,000
 Equipment = \$140,000
 Leasehold = \$50,000
 Total Expenditures = \$590,000
 Tax Return = 35.00%

Treasury Proposal Including Indexing
At 6% Annual Rate of Inflation

Table Five

Year	IDC	Depreciation	Depletion	Total Deductions	Tax Benefit At 35% Rate	Investment Tax Credit	Total Tax Benefits
1	62,600	25,200	7,800	95,600	33,500	0	33,500
2	99,500	21,900	12,400	133,800	46,800	0	46,800
3	74,300	19,000	9,300	102,600	35,900	0	35,900
4	69,600	16,500	8,700	94,800	33,200	0	33,200
5	63,200	14,400	7,900	85,500	29,900	0	29,900
6	50,300	12,500	6,300	69,100	24,200	0	24,200
7	24,700	10,900	3,100	38,700	13,500	0	13,500
8	13,100	9,400	1,600	24,100	8,400	0	8,400
9	5,500	8,200	700	14,400	5,000	0	5,000
10	2,900	39,600	400	42,900	15,000	0	15,000
TOTAL	465,700	177,600	58,200	701,500	245,400	0	245,400
Net After Tax Present Value at						12.00%	159,290

IDC = \$400,000
 Equipment = \$140,000
 Leasehold = \$50,000
 Total Expenditures = \$590,000
 Tax Return = 35.00%

Table Six

EVALUATION AND DOLLAR COMPARISON
OF TOTAL TAX BENEFITS UNDER
THE VARIOUS FLAT TAX PROPOSALS

TOTAL TAX BENEFIT						COMPARISON OF TAX BENEFITS WITH CURRENT LAW			
YEAR	CURRENT LAW 50%	KEMP & KASTEN 25%	BRADLEY & GEPHEARDT 30%	TREASURY WITHOUT INDEXING 35%	TREASURY WITH INDEXING 35%	KEMP & KASTEN 25%	BRADLEY & GEPHEARDT 30%	TREASURY WITHOUT INDEXING 35%	TREASURY WITH INDEXING 35%
1	\$225,600	\$33,400	\$25,300	\$33,500	\$33,500	(\$192,200)	(\$200,300)	(\$192,100)	(\$192,100)
2	\$21,300	\$50,500	\$43,000	\$44,200	\$46,800	\$29,200	\$21,700	\$22,900	\$25,500
3	\$18,900	\$49,000	\$30,200	\$32,000	\$35,900	\$30,100	\$11,300	\$13,100	\$17,000
4	\$18,400	\$7,400	\$21,500	\$27,900	\$33,200	(\$11,000)	\$3,100	\$9,500	\$14,800
5	\$17,900	\$7,400	\$15,400	\$23,700	\$29,900	(\$10,500)	(\$2,500)	\$5,800	\$12,000
6	\$2,400	\$0	\$11,100	\$18,100	\$24,200	(\$2,400)	\$9,700	\$15,700	\$21,800
7	\$1,100	\$0	\$8,100	\$9,600	\$13,500	(\$1,100)	\$7,000	\$8,500	\$12,400
8	\$600	\$0	\$5,900	\$5,600	\$8,400	(\$600)	\$5,300	\$5,000	\$7,800
9	\$200	\$0	\$4,300	\$3,200	\$5,000	(\$200)	\$4,100	\$3,000	\$4,800
10	\$100	\$0	\$12,400	\$8,900	\$15,000	(\$100)	\$12,300	\$8,800	\$14,900
TOTAL	\$306,500	\$147,700	\$177,200	\$206,700	\$245,400	(\$158,800)	(\$129,300)	(\$99,800)	(\$61,100)

NPV @

12.00%	\$255,772	\$113,859	\$117,980	\$138,896	\$159,230	(\$141,913)	(\$137,792)	(\$116,876)	(\$96,542)
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BASIS:

IDC: \$400,000

EQUIPMENT: \$140,000

LEASEHOLD: \$50,000

*** ASSUMING 6% INFLATION INDEXING IN YEARS 2 THROUGH 10.

EVALUATION AND PERCENTAGE COMPARISON
OF TOTAL TAX BENEFITS UNDER
THE VARIOUS FLAT TAX PROPOSALS

TOTAL TAX BENEFIT						PERCENT REDUCTION IN TAX BENEFIT BASED ON A \$590,000 EXPENDITURE IN YEAR 1			
YEAR	CURRENT LAW 50%	KEMP & KASTEN 25%	BRADLEY & GEPHEARDT 30%	TREASURY WITHOUT INDEXING 35%	TREASURY WITH INDEXING*** 35%	KEMP & KASTEN 25%	BRADLEY & GEPHEARDT 30%	TREASURY WITHOUT INDEXING 35%	TREASURY WITH INDEXING*** 35%
1	\$225,600	\$33,400	\$25,300	\$33,500	\$33,500	-32.58%	-33.95%	-32.56%	-32.56%
2	\$21,300	\$50,500	\$43,000	\$44,200	\$46,800	4.95%	3.68%	3.88%	4.32%
3	\$18,900	\$49,000	\$30,200	\$32,000	\$35,900	5.10%	1.92%	2.22%	2.88%
4	\$18,400	\$7,400	\$21,500	\$27,900	\$33,200	-1.86%	0.53%	1.61%	2.51%
5	\$17,900	\$7,400	\$15,400	\$23,700	\$29,900	-1.78%	-0.42%	0.98%	2.03%
6	\$2,400	\$0	\$11,100	\$18,100	\$24,200	-0.41%	1.47%	2.66%	3.69%
7	\$1,100	\$0	\$8,100	\$9,600	\$13,500	-0.19%	1.19%	1.44%	2.10%
8	\$600	\$0	\$5,900	\$5,600	\$8,400	-0.10%	0.96%	0.85%	1.32%
9	\$200	\$0	\$4,300	\$3,200	\$5,000	-0.03%	0.69%	0.51%	0.81%
10	\$100	\$0	\$12,400	\$8,900	\$15,000	-0.02%	2.08%	1.49%	2.53%
TOTAL	\$306,500	\$147,700	\$177,200	\$206,700	\$245,400	-26.92%	-21.92%	-16.92%	-10.36%

NPV @

12.00% \$255,772 \$113,859 \$117,980 \$138,896 \$155,230

BASIS:

IDC: \$400,000

EQUIPMENT: \$140,000

LEASEHOLD: \$50,000

TOTAL \$590,000

*** ASSUMING 6% INFLATION INDEXING IN YEARS 2 THROUGH 10.

EVALUATION AND COMPARISON
OF AFTER TAX CASH FLOW USING
THE IDC TOTAL TAX BENEFITS UNDER
THE VARIOUS FLAT TAX PROPOSALS

EFFECT ON AFTER TAX CASH FLOW****						PERCENT REDUCTION IN CASH AVAILABLE TO SPEND BASED ON \$590,000 EXPENDITURE IN YEAR 1			
YEAR	CURRENT LAW 50%	KEMP & KASTEN 25%	BRADLEY & GEPHEARDT 30%	TREASURY WITHOUT INDEXING 35%	TREASURY WITH INDEXING*** 35%	KEMP & KASTEN 25%	BRADLEY & GEPHEARDT 30%	TREASURY WITHOUT INDEXING 35%	TREASURY WITH INDEXING*** 35%
1	\$520,600	\$475,900	\$438,300	\$417,000	\$417,000	-7.58%	-13.95%	-17.56%	-17.56%
2	\$21,300	\$50,500	\$43,000	\$44,200	\$46,800	4.95%	3.68%	3.88%	4.32%
3	\$18,900	\$49,000	\$30,200	\$32,000	\$35,900	5.10%	1.92%	2.22%	2.88%
4	\$18,400	\$7,400	\$21,500	\$27,900	\$33,200	-1.86%	0.53%	1.61%	2.51%
5	\$17,900	\$7,400	\$15,400	\$23,700	\$29,900	-1.78%	-0.42%	0.98%	2.03%
6	\$2,400	\$0	\$11,100	\$18,100	\$24,200	-0.41%	1.47%	2.66%	3.69%
7	\$1,100	\$0	\$8,100	\$9,600	\$13,500	-0.19%	1.19%	1.44%	2.10%
8	\$600	\$0	\$5,900	\$5,600	\$6,400	-0.10%	0.90%	0.85%	1.32%
9	\$200	\$0	\$4,300	\$3,200	\$5,000	-0.03%	0.69%	0.51%	0.81%
10	\$100	\$0	\$12,400	\$8,900	\$15,000	-0.02%	2.08%	1.49%	2.53%
TOTAL	601500	590200	590200	590200	628900	-1.92%	-1.92%	-1.92%	4.64%

NOTE:

**** AFTER TAX CASH FLOW TAKING INTO ACCOUNT IDC AND OTHER TAX BENEFITS (AS CALCULATED ON TABLES ONE THROUGH FIVE).

*** ASSUMING 6% INFLATION INDEXING IN YEARS 2 THROUGH 10.

** TAX WITHOUT TAKING INTO ACCOUNT IDC TAX BENEFITS.

* AFTER TAX CASH FLOW WITHOUT TAKING INTO ACCOUNT IDC TAX BENEFITS.

BASIS:

IDC: \$400,000

EQUIPMENT: \$140,000

LEASEHOLD: \$50,000

TOTAL \$590,000

ANALYSIS OF THE IMPACT OF THE PROPOSED TAX TREATMENT
OF INTANGIBLE DRILLING COSTS ON DRILLING EXPENDITURES,
WELLS DRILLED, EMPLOYMENT & RESERVES FOUND - 1986- 1991

1984 DRILLING RIGS 36
1983 WELL COST \$349,276
GPT TAX RATE 6.08%

YEAR	CURRENT LAW			TREASURY PROPOSAL			REDUCTION IN			REDUCTION IN			REDUCTION IN			REDUCTION IN		
	TOTAL CASH AVAILABLE FOR DRILLING (\$mm)	J.A.S. DRILLING EXPENDITURES (\$mm)	J.A.S. DRILLING EXPENDITURES (\$mm)	TOTAL CASH AVAILABLE FOR DRILLING (\$mm)	J.A.S. DRILLING EXPENDITURES (\$mm)	J.A.S. DRILLING EXPENDITURES (\$mm)	TOTAL CASH AVAILABLE FOR DRILLING (\$mm)	J.A.S. DRILLING EXPENDITURES (\$mm)	J.A.S. DRILLING EXPENDITURES (\$mm)	IN TOTAL WELLS DRILLED	DRILLING RIG ACTIVITY	RESERVES ADDED (mmBOE)	IN DAILY PRODUCTION (BOE/DAY)	IN TOTAL WELLS DRILLED	DRILLING RIG ACTIVITY	RESERVES ADDED (mmBOE)	IN DAILY PRODUCTION (BOE/DAY)	IN TOTAL WELLS DRILLED
80	\$244	\$244	\$103	\$103	\$103	\$67	\$67	\$67	\$67	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
81	\$630	\$630	\$85	\$85	\$85	\$85	\$85	\$85	\$85	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
82	\$377	\$377	\$92	\$92	\$92	\$78	\$78	\$78	\$78	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
83	\$170	\$170	\$93	\$93	\$93	\$77	\$77	\$77	\$77	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
84	\$170	\$170	\$95	\$95	\$95	\$75	\$75	\$75	\$75	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
86	\$170	\$170	\$97	\$97	\$97	\$73	\$73	\$73	\$73	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
87	\$170	\$170	\$103	\$103	\$103	\$67	\$67	\$67	\$67	192	14	6	537	244	18	7	2,216	244
88	\$170	\$170	\$92	\$92	\$92	\$78	\$78	\$78	\$78	222	16	6	4,484	222	16	6	6,429	222
89	\$170	\$170	\$93	\$93	\$93	\$77	\$77	\$77	\$77	220	16	6	7,914	220	16	6	9,152	220
90	\$170	\$170	\$95	\$95	\$95	\$75	\$75	\$75	\$75	215	16	6		215	16	6		215
91	\$170	\$170	\$97	\$97	\$97	\$73	\$73	\$73	\$73	209	16	6		209	16	6		209
TOTAL	\$1,019	\$1,019	\$564	\$564	\$564	\$455	\$455	\$455	\$455	n.a.	n.a.	38	n.a.	1,302	n.a.	38	n.a.	1,302
AVERAGE	\$170	\$170	\$94	\$94	\$94	\$76	\$76	\$76	\$76	217	16	6	5,122	217	16	6	5,122	217

AVERAGE IMPACT 1986-91:

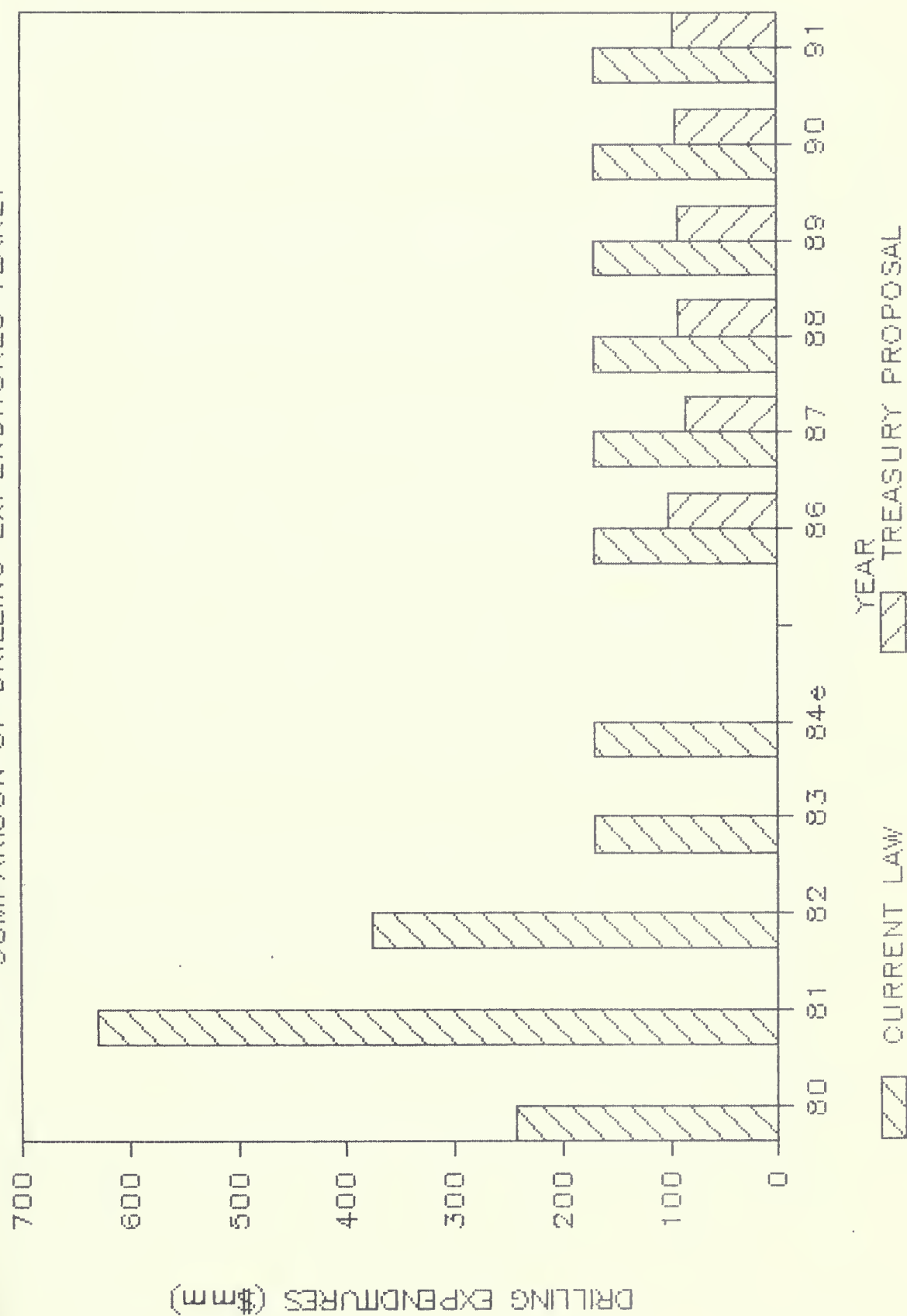
REDUCTION IN DRILLING EXPENDITURES YEARLY \$76 MILLION
REDUCTION IN EMPLOYMENT DUE TO REDUCED DRILLING: 3,791 JOBS
REDUCTION IN NUMBER OF WELLS DRILLED YEARLY 217 WELLS
REDUCTION IN DRILLING RIG RUNNING YEARLY 16 RIGS
REDUCTION IN RESERVES ADDED AT \$12.00 PER BOE: 38 mmBOE
REDUCTION IN DAILY OIL AND GAS PRODUCTION: 5,122 BOE/DAY
REDUCTION IN OIL AND GAS SALES: \$37 MILLION
REDUCTION IN STATE GPT COLLECTIONS: \$2 MILLION

ASSUMPTIONS:

INDUSTRY EXPENDITURES ARE REDUCED BY ONE-THIRD IN 1986 DUE TO UNCERTAINTY AND REDUCED THIRD PARTY FUNDING
THIRD PARTY FUNDING IS REDUCED BY ONE-HALF IN 1986 DUE TO UNCERTAINTY IN TAX TREATMENT
AFTER 1986 INDUSTRY EXPENDITURES REMAIN AT TWO-THIRDS OF 1984 LEVELS + OR - REDUCED CASH FLOW FROM ACCELERATED TAX PAYMENTS.
AFTER 1986 THIRD PARTY FUNDING REMAIN AT ONE-HALF OF 1984 LEVELS + OR - REDUCED CASH FLOW FROM ACCELERATED TAX PAYMENTS.
1986 AVERAGE WELLHEAD PRICE WAS \$19.63/BOE.
A REDUCTION IN DRILLING EXPENDITURES OF ONE MILLION DOLLARS RESULTS IN A LOSS OF 50 JOBS.

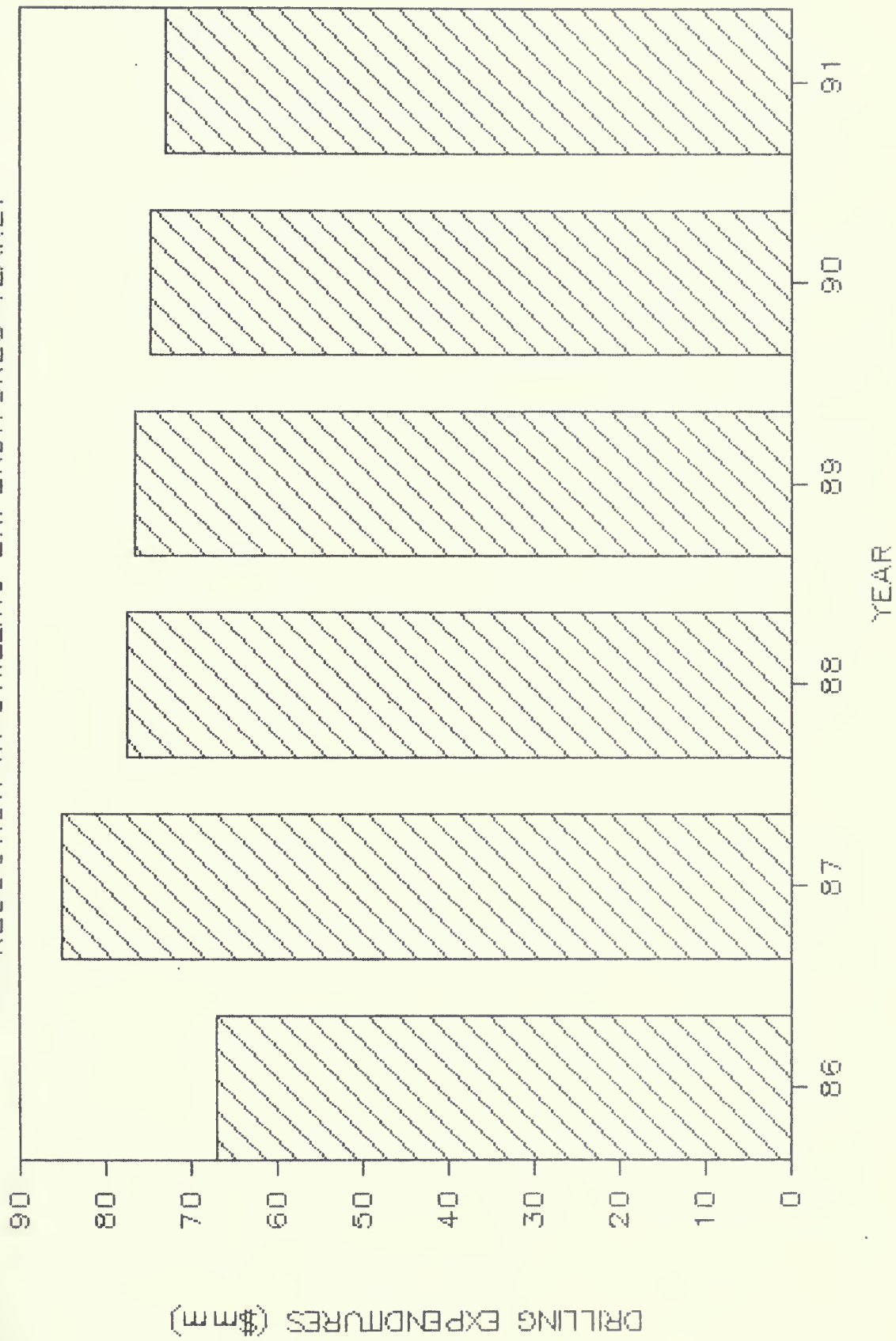
MT IMPACT OF IDC TAX PROPOSAL

COMPARISON OF DRILLING EXPENDITURES YEARLY



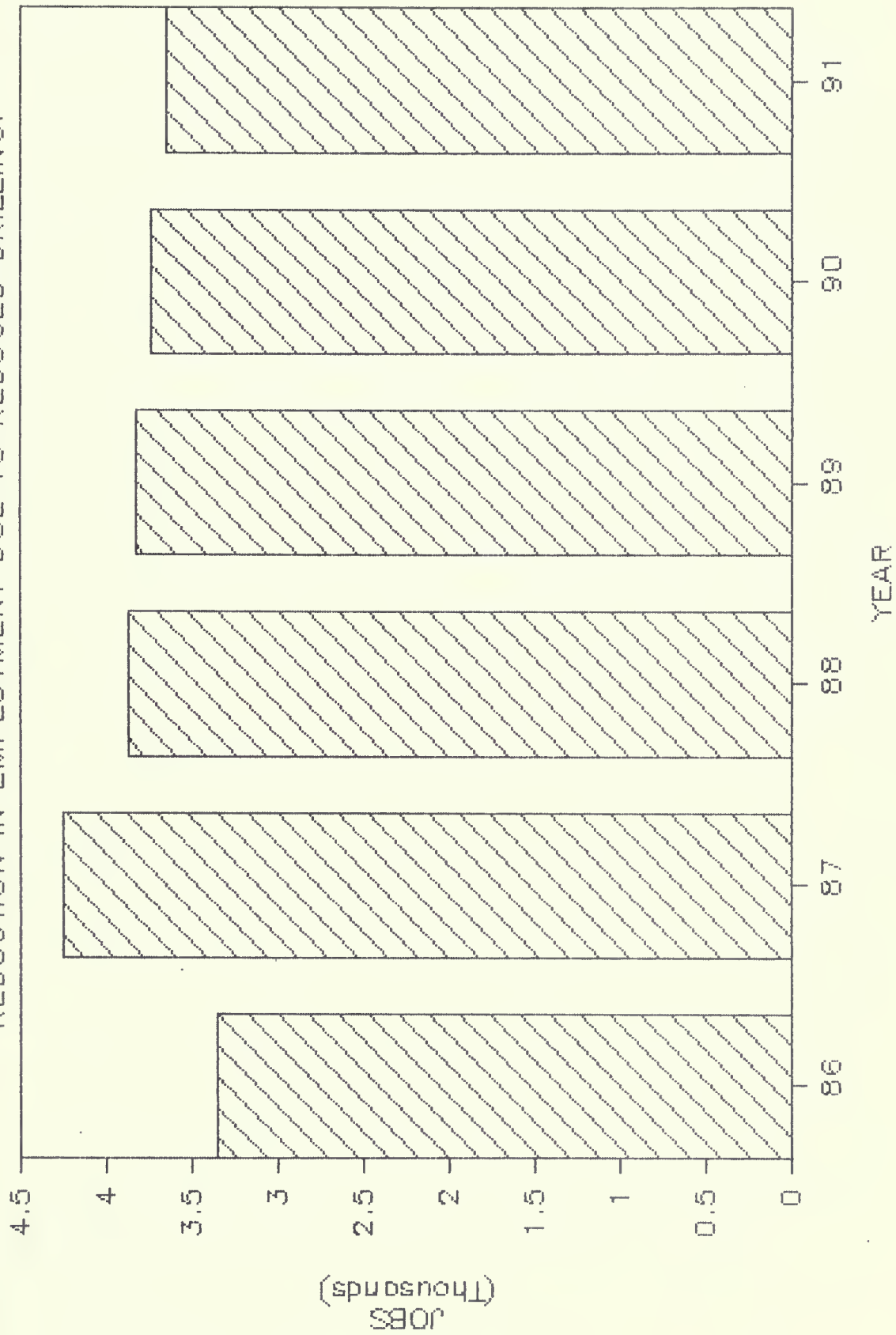
MT IMPACT OF IDC TAX PROPOSAL

REDUCTION IN DRILLING EXPENDITURES YEARLY



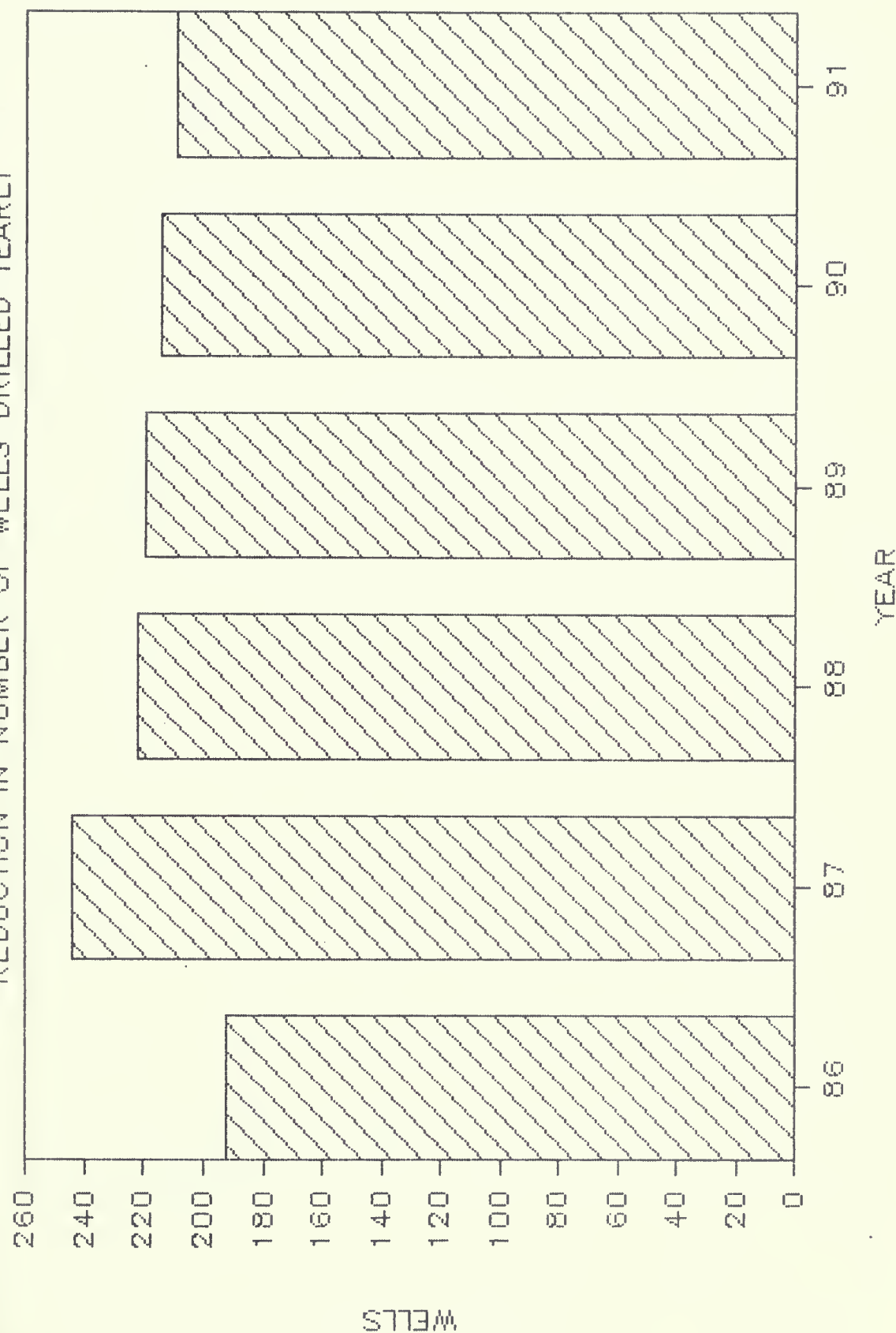
MT IMPACT OF IDC TAX PROPOSAL

REDUCTION IN EMPLOYMENT DUE TO REDUCED DRILLING:



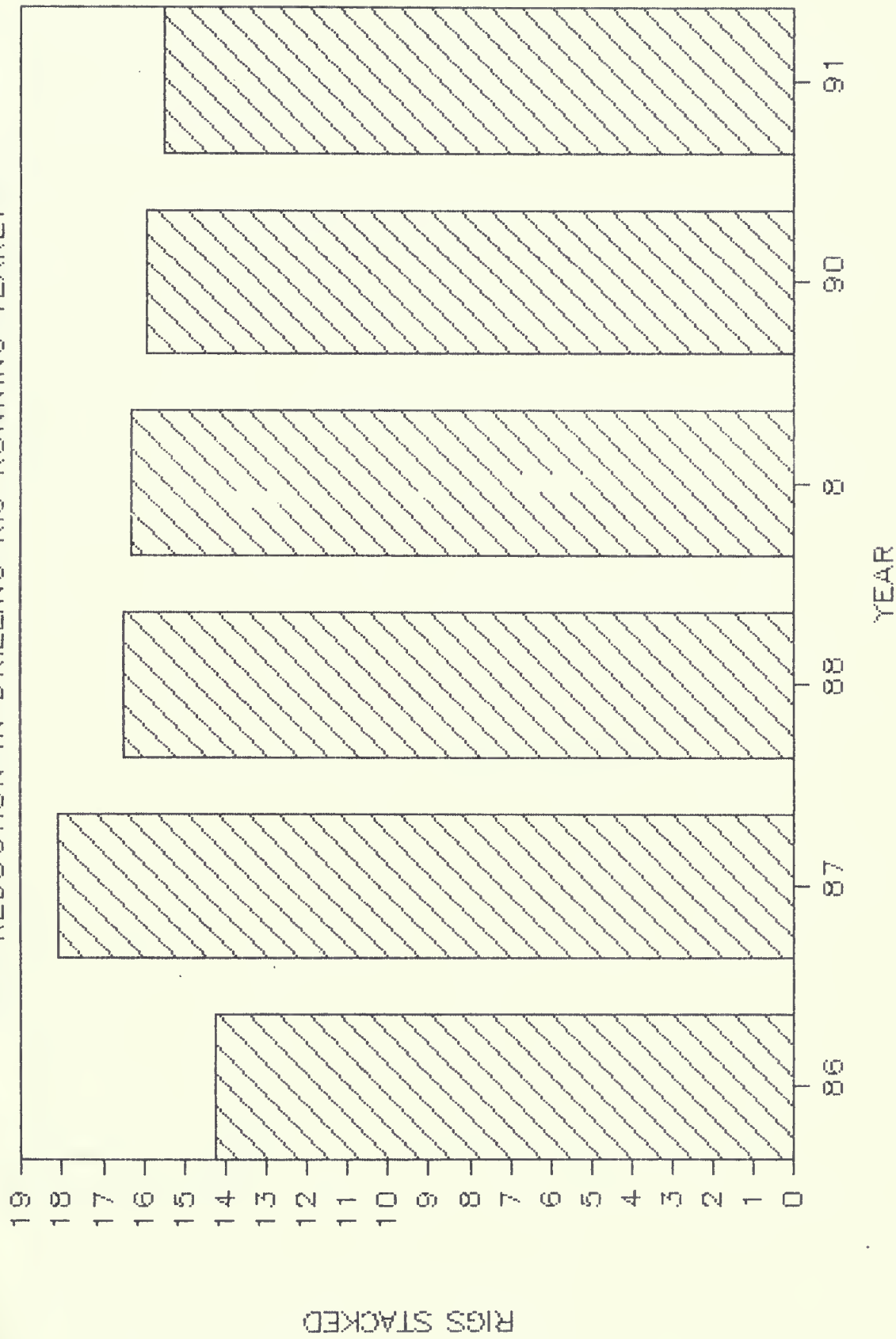
MT IMPACT OF IDC TAX PROPOSAL

REDUCTION IN NUMBER OF WELLS DRILLED YEARLY



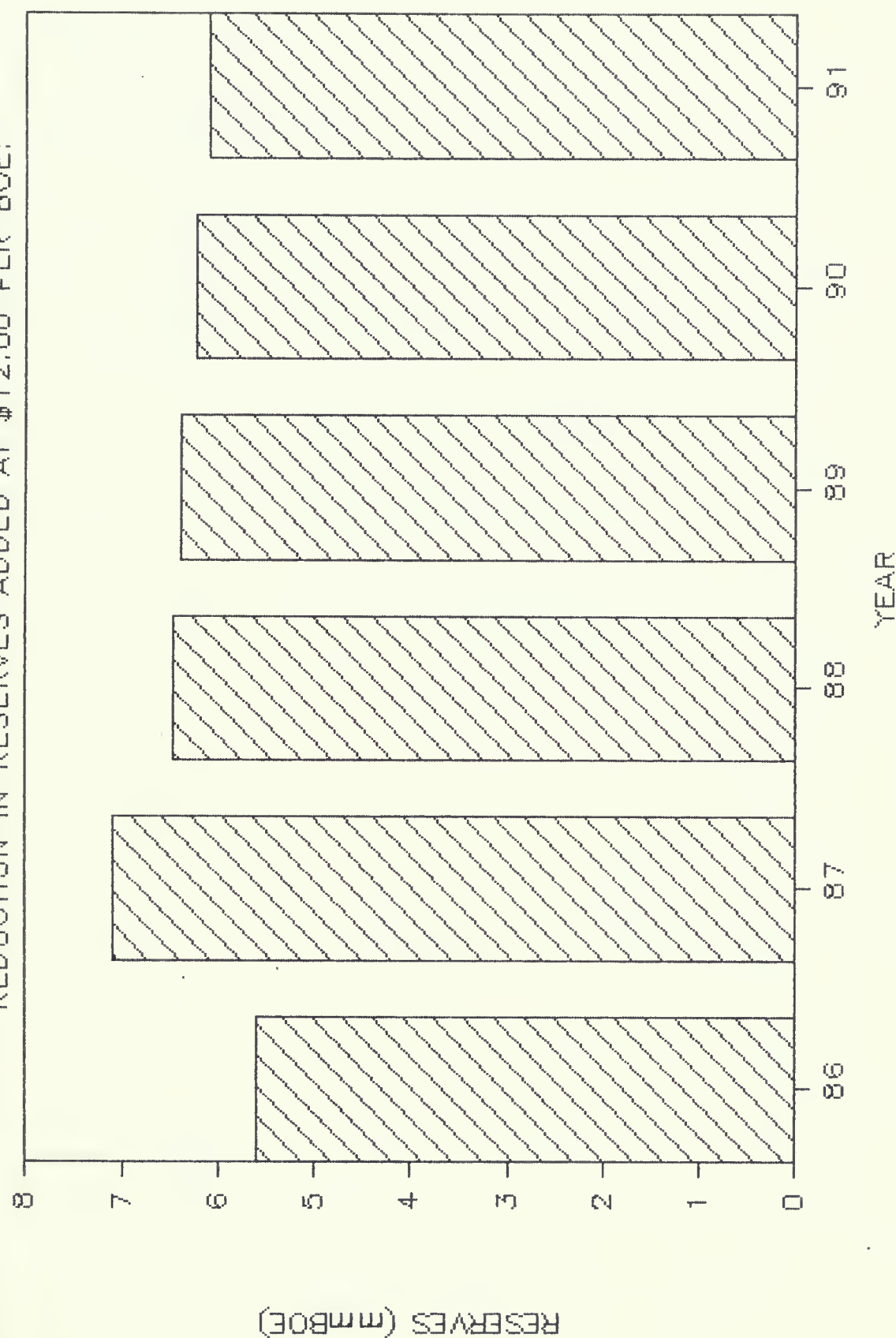
MT IMPACT OF IDC TAX PROPOSAL

REDUCTION IN DRILLING RIG RUNNING YEARLY



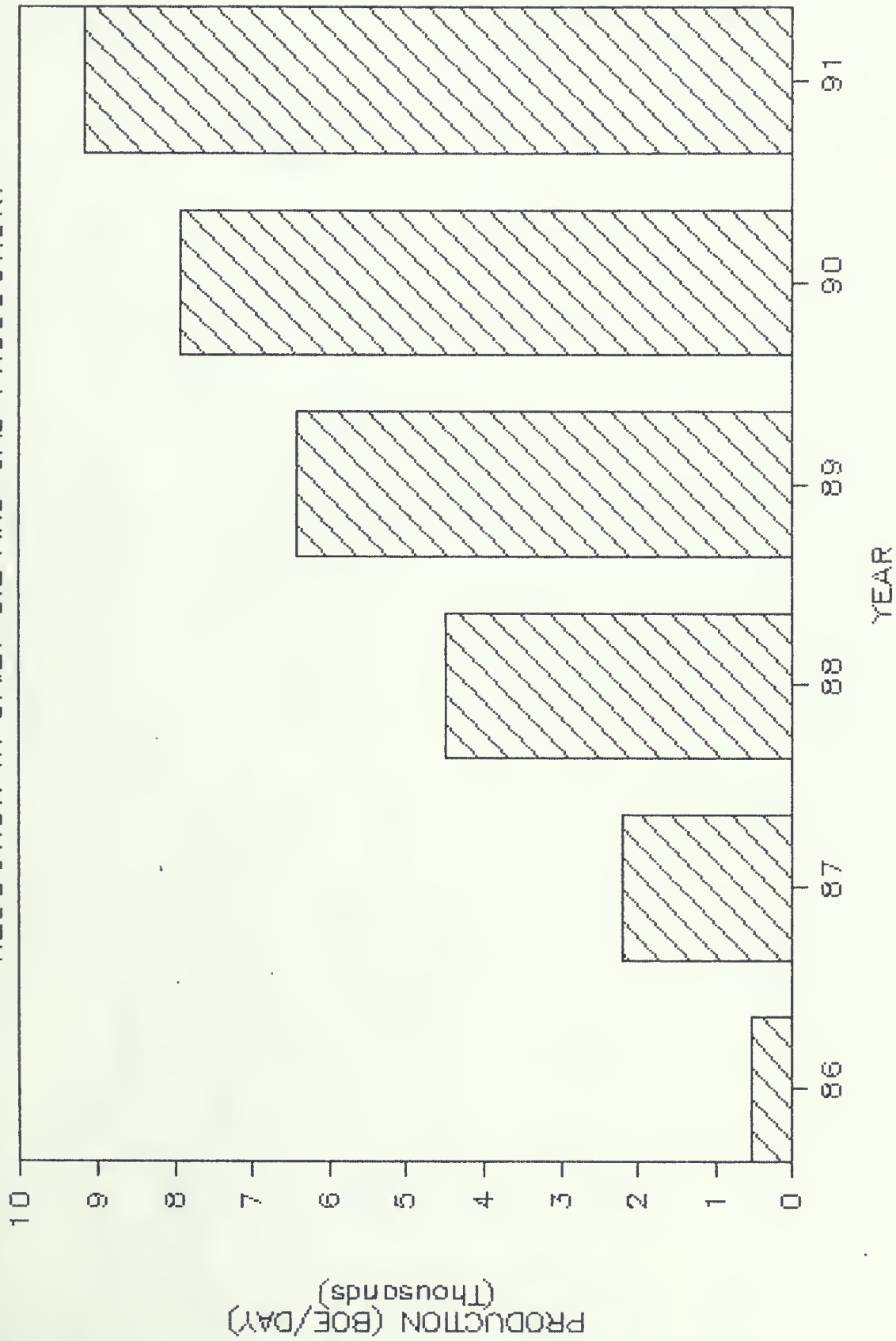
MT IMPACT OF IDC TAX PROPOSAL

REDUCTION IN RESERVES ADDED AT \$12.00 PER BOE:



MT IMPACT OF IDC TAX PROPOSAL

REDUCTION IN DAILY OIL AND GAS PRODUCTION:



IMPACT OF REMOVAL OF PERCENTAGE DEPLETION ON STRIPPER OIL WELLS AND ON THE MONTANA ECONOMY

Introduction

The purpose of this study is to determine the impact on the Montana economy of removing from the federal tax laws the provision for percentage depletion on stripper oil wells.

A stripper oil well is one that produces less than 10 barrels per day. The importance of stripper wells to domestic oil production is shown on Table One, Montana Historical Stripper Well Statistics 1980-83 With Projected Impact Of Removal Of Percentage Depletion in 1986. At year-end 1983, Montana had more than 2,673 stripper wells producing an average of 3.18 barrels per day. Total annual stripper well production in 1983 was 3,100,000 barrels of oil, or 10.46% of total Montana production. Total stripper well reserves at year end 1983 were 29,690,000 barrels.

Under current federal tax laws, independent oil and gas producers and royalty owners are allowed to deduct 15% of the gross revenues from a limited amount of their oil and gas production, provided that the amount of percentage depletion allowed cannot exceed 50% of the net income from a particular property. The amount of oil and gas subject to percentage depletion allowed cannot exceed an average daily production of 1,000 barrels of oil or 6,000 Mcf of gas.

Percentage depletion, when allowed and if greater than cost depletion, must be taken in lieu of cost depletion. Percentage depletion allowed is deducted from capitalized costs, but may continue to be taken even if all capitalized costs have been recovered. Cost depletion may be taken only to the extent of capitalized costs.

This study focuses on stripper wells operated by independent producers, who operate two out of every three stripper wells. Production from these wells is not subject to the windfall profit tax, and most stripper wells have very low or no cost basis, so there is little or no tax basis for cost depletion. Therefore, disallowing the percentage depletion deduction on stripper oil wells, for which cost depletion is unavailable, would result in a direct and measurable loss of after-tax revenues for independent producers and royalty owners, and a significant adverse impact on the Montana economy.

The loss of revenues for independent producers and royalty owners resulting from the removal of percentage depletion on all their oil and gas production would be even greater. However,

measuring this loss and its impact on the Montana economy is outside the scope of this study.

Major Findings

The study found that removing percentage depletion on stripper wells would have the following results in the first year alone:

- 222 stripper wells would be abandoned because they would no longer be economic to operate;
- domestic oil production would be reduced by 518 barrels per day due to premature abandonment, and by 16 barrels per day due to decreased drilling;
- oil and gas revenues would be reduced by \$5,063,253;
- royalty payments would fall by \$759,488;
- severance tax payments would drop by \$303,795;
- oil and gas drilling would be cut back by \$2,025,301;
- 461 jobs would be lost in the petroleum and other industries;

In addition, 5,140,140 barrels of proven developed oil reserves would be lost as the stripper wells are plugged and abandoned. This compares to 450,900,000 barrels stored in the National Strategic Petroleum Reserve at a cost to the taxpayers through fiscal 1984 of \$14,500,000,000.

Background on Percentage Depletion

Percentage depletion is a tax provision that dates back to before 1920 and applies not just to oil and gas, but to other natural resources such as coal. The tax laws often distinguish between capital and income so capital is returned for future investments. But as an oil well produces, the producer's capital is being steadily depleted. So the percentage depletion deduction was established to prevent a gradual loss of capital by leaving the producer with more after-tax dollars needed to drill new wells and, thereby, replace the depleted reserves.

From 1926 to 1969, oil operators were generally allowed to deduct 27.5% of gross income from an oil property as percentage depletion. The 1969 Tax Reform Act cut the depletion percentage for oil properties to 22%. In 1975, a new tax law eliminated percentage depletion on oil properties for all major oil companies. But the law allowed small, non-integrated independent producers to keep their percentage depletion deduction at 22% until 1980, then gradually declining to 15% in 1984.

Stripper Well Economics

Tables Two, Three and Four show the estimated pre-tax and after-tax proceeds to major and independent producers with and without percentage depletion for the years 1974 through 1984. Average royalties are estimated at 15%, and severance taxes at 6%. Operating costs were estimated based on a survey of petroleum engineering firms and are the major variable in these three tables. Table Two is based on low operating costs; Table Three on medium operating costs, and Table Four on high operating costs. For the economic impact projections, the stripper well economics summarized in Table Three were used.

Chart One, Net Pre-Tax Proceeds to Independent Stripper Well Producers, shows that the pre-tax proceeds have dropped from \$14.19 per barrel in 1981 to \$7.93 per barrel in 1984. Chart Two, Value of Depletion to Independent Stripper Well Producers, shows that the value of percentage depletion to the independent producer has dropped from \$2.58 per barrel in 1981 to \$1.83 per barrel in 1984. This downward trend is expected to continue in 1986.

Note in Table Three that an independent producer in 1984 would receive net after-tax income of \$5.80 per barrel under the current law, but only \$3.96 per barrel without percentage depletion. Thus, the net effect of eliminating percentage depletion in 1984 would be \$1.83 per barrel.

The economic life of these stripper wells is shortened by reductions in after-tax income regardless of whether the decrease results from falling prices, rising costs, or higher tax rates.

As seen in Chart Three, Net After-Tax Proceeds To Independent Stripper Well Producers, net after-tax proceeds have already dropped from \$9.67 per barrel in 1981 to \$5.80 per barrel in 1984. An additional tax burden resulting from removing percentage depletion would shorten the economic life of the average stripper well by 3.75 years, assuming there is no

further decline in oil prices. This calculation is based on the average stripper well life of 25.8 years, the average stripper well production decline rate of 5.5% per year, and the change in net after-tax revenue to the operator from removal of percentage depletion. (See Table Five, National Stripper Well Summary, 1954-1983.)

Production and Reserve Losses

Chart Four, Montana Number of Stripper Wells, shows the total number of stripper wells operating annually in Montana from 1980 through 1986. An estimated 222 stripper wells would be abandoned in 1986 alone due to the removal of percentage depletion. As seen on Chart Five, Montana Abandonment of Stripper Wells, this would greatly increase the annual abandonments in 1982-84. These abandonments would cause stripper well production to drop by 518 barrels per day, which would have to be replaced by imported oil. (See Chart Six, Montana Stripper Well Production, and Table Six, Summary Of The Impact Of The Removal Of Percentage Depletion For Stripper Well Properties.)

The proven developed oil reserves attributable to these wells would no longer be available. As shown on Chart Seven, Montana Stripper Well Reserves, and Table Six, these lost reserves total 5,140,140 barrels.

Most oil wells eventually become stripper wells toward the end of their producing life. As stripper wells approach their economic limits and become candidates for plugging, only about 25% of the original oil in place has been produced by the primary reservoir drive. The use of secondary and other enhanced recovery measures can increase the resource recovered by an additional 15%. However, if a producer wants to make an additional investment in an enhanced recovery project, the first thing he needs is existing wells. If the stripper wells have been prematurely plugged, they are obviously unavailable for enhanced recovery projects. Therefore, prolonging the life of producing oil wells is even more important when one considers that the United States holds 300 billion barrels of discovered but unproduced oil that can only be tapped through enhanced recovery methods.

Adverse Economic Impact

As stated earlier, the reduction in oil production would cause the revenues to independent oil producers to drop by \$5,063,253, reduce royalty payments by \$759,488 and reduce

severance tax payments by \$303,795. Based on historical industry averages, every dollar in lost oil and gas revenue by independent producers results in \$0.40 less spent to drill new wells. Thus, 1985 drilling expenditures would drop by nearly \$2,025,301. (See Table Six.)

Economic research has found that, for every \$1,000,000 of oil and gas revenue lost, employment drops by 91 jobs. Of these lost jobs, only 39 would be in the petroleum industry, while 52 would be in other industries affected indirectly by the reduced economic activity. Therefore, a total of 461 jobs would be lost in 1985 alone.

Conclusion

Eliminating percentage depletion on stripper well production would increase abandonments of stripper wells and significantly reduce drilling and production activity. The subsequent impact on Montana's economy would be severe. Montana's oil resource base available for secondary and other enhanced recovery projects would be greatly reduced. The major beneficiaries of such an ill-advised change in the tax laws would be foreign nations increasing their oil exports to the United States.

TABLE ONE

MT
SEVERANCE TAX RATE 6.000%

MONTANA
HISTORICAL STRIPPER WELL STATISTICS 1980-1983
WITH PROJECTED IMPACT OF REMOVAL
OF PERCENTAGE DEPLETION IN 1986

YEAR	STRIPPER WELL				AVERAGE DAILY PRODUCTION PER STRIPPER WELL (BPD)	TOTAL STRIPPER WELL ANNUAL PRODUCTION (MMBLS)	TOTAL PRODUCTION (MMBLS)	TOTAL STRIPPER WELL AVERAGE DAILY PRODUCTION (BPD)	TOTAL AVERAGE PRODUCTION (BPD)	PERCENT STRIPPER PRODUCTION
	NUMBER	ABANDONMENTS	ADDITIONS	ACRES						
1979	1,996									
1980	2,082	28	114	61,820	3.56	2.71	29.58	7,404	80,831	9.16%
1981	2,058	17	(7)	106,210	3.66	2.75	30.81	7,526	84,419	8.92%
1982	2,243	55	240	89,720	3.52	2.88	30.92	7,893	84,704	9.32%
1983	2,673	0	430	115,760	3.18	3.10	29.67	8,501	81,274	10.46%
1984e	2,981	28	335	129,077	3.18	3.47	29.67	9,504	81,288	11.69%
1986p	2,759	222	0	119,481	3.25	3.27	29.48	8,970	80,754	11.11%

STRIPPER WELL RESERVES

YEAR	PRIMARY (MMBLS)	SECONDARY (MMBLS)	TOTAL (MMBLS)
1979			
1980	16.83	14.90	33.22
1981	21.12	3.08	24.19
1982	25.88	0.75	26.63
1983	28.20	1.49	29.69
1984e	31.53	1.67	33.19
1986p	26.64	1.41	28.05

TABLE TWO

ESTIMATED PRE-TAX AND AFTER-TAX PROCEEDS
TO THE PRODUCER WITH AND WITHOUT PERCENTAGE DEPLETION
LOW OPERATING COST

YEAR	AVERAGE CRUDE OIL PRICE (\$/BBL)	DECEMBER CRUDE OIL PRICE (\$/BBL)	WPT BASE CRUDE OIL PRICE (\$/BBL)	NET MAJOR STRIPPER CRUDE OIL PRICE (\$/BBL)	NET INDEPENDENT STRIPPER CRUDE OIL PRICE (\$/BBL)	ROYALTY (\$/BBL)	SEVERANCE TAX (\$/BBL)	LOW OPERATING COST (\$/BBL)
1974	\$7.16	\$11.28	N.A.	\$7.16	\$7.16	\$1.07	\$0.43	\$3.53
1975	\$8.51	\$13.18	N.A.	\$8.51	\$8.51	\$1.28	\$0.51	\$4.04
1976	\$9.19	\$13.37	N.A.	\$9.19	\$9.19	\$1.38	\$0.55	\$4.39
1977	\$9.98	\$14.73	N.A.	\$9.98	\$9.98	\$1.50	\$0.60	\$4.83
1978	\$10.90	\$15.10	N.A.	\$10.90	\$10.90	\$1.64	\$0.66	\$5.35
1979	\$15.06	\$24.58	N.A.	\$15.06	\$15.06	\$2.26	\$0.91	\$5.97
1980	\$27.55	\$37.83	\$17.18	\$22.37	\$24.96	\$3.74	\$1.50	\$6.53
1981	\$35.26	\$36.22	\$18.84	\$25.41	\$30.34	\$4.55	\$1.83	\$6.93
1982	\$32.81	\$32.75	\$20.20	\$25.25	\$29.03	\$4.35	\$1.75	\$7.42
1983	\$30.08	\$30.00	\$21.27	\$24.79	\$30.08	\$4.51	\$1.81	\$8.16
1984	\$28.75	\$26.75	\$21.98	\$24.69	\$28.75	\$4.31	\$1.73	\$8.89

YEAR	MAJOR PRODUCER NET PROCEEDS (\$/BBL)	INDEPENDENT PRODUCER NET PROCEEDS (\$/BBL)	PERCENTAGE DEPLETION (\$/BBL)	50% TAX BRACKET AFTER TAX PROCEEDS WITH DEPLETION		50% TAX BRACKET AFTER TAX PROCEEDS WITHOUT DEPLETION		NET EFFECT OF REMOVAL OF DEPLETION (\$/BBL)
				MAJOR (\$/BBL)	INDEPENDENT (\$/BBL)	MAJOR (\$/BBL)	INDEPENDENT (\$/BBL)	
1974	\$2.12	\$2.12	\$1.34	\$1.06	\$1.73	\$1.06	\$1.06	\$0.67
1975	\$2.68	\$2.68	\$1.59	\$1.34	\$2.14	\$1.34	\$1.34	\$0.80
1976	\$2.87	\$2.87	\$1.72	\$1.43	\$2.29	\$1.43	\$1.43	\$0.86
1977	\$3.06	\$3.06	\$1.87	\$1.53	\$2.46	\$1.53	\$1.53	\$0.93
1978	\$3.26	\$3.26	\$2.04	\$1.63	\$2.65	\$1.63	\$1.63	\$1.02
1979	\$5.93	\$5.93	\$2.82	\$2.96	\$4.37	\$2.96	\$2.96	\$1.41
1980	\$10.59	\$13.18	\$4.67	\$5.30	\$8.92	\$5.30	\$6.59	\$2.33
1981	\$12.10	\$17.03	\$5.16	\$6.05	\$11.09	\$6.05	\$8.51	\$2.58
1982	\$11.73	\$15.51	\$4.44	\$5.86	\$9.98	\$5.86	\$7.76	\$2.22
1983	\$10.31	\$15.60	\$4.09	\$5.16	\$9.84	\$5.16	\$7.80	\$2.05
1984	\$9.76	\$13.82	\$3.67	\$4.88	\$8.74	\$4.88	\$6.91	\$1.83

TABLE THREE

ESTIMATED PRE-TAX AND AFTER-TAX PROCEEDS
TO THE PRODUCER WITH AND WITHOUT PERCENTAGE DEPLETION
MID OPERATING COST

YEAR	AVERAGE CRUDE OIL PRICE (\$/BBL)	DECEMBER CRUDE OIL PRICE (\$/BBL)	WPT BASE CRUDE OIL PRICE (\$/BBL)	NET MAJOR STRIPPER CRUDE OIL PRICE (\$/BBL)	NET INDEPENDENT STRIPPER CRUDE OIL PRICE (\$/BBL)	ROYALTY (\$/BBL)	SEVERANCE TAX (\$/BBL)	MID OPERATING COST (\$/BBL)
1974	\$7.16	\$11.28	N.A.	\$7.16	\$7.16	\$1.07	\$0.43	\$3.72
1975	\$8.51	\$13.18	N.A.	\$8.51	\$8.51	\$1.28	\$0.51	\$4.27
1976	\$9.19	\$13.37	N.A.	\$9.19	\$9.19	\$1.38	\$0.55	\$4.90
1977	\$9.98	\$14.73	N.A.	\$9.98	\$9.98	\$1.50	\$0.60	\$5.63
1978	\$10.90	\$15.10	N.A.	\$10.90	\$10.90	\$1.64	\$0.66	\$6.46
1979	\$15.06	\$24.58	N.A.	\$15.06	\$15.06	\$2.26	\$0.91	\$7.42
1980	\$27.55	\$37.83	\$17.18	\$22.37	\$24.96	\$3.74	\$1.50	\$8.51
1981	\$35.26	\$36.22	\$18.84	\$25.41	\$30.34	\$4.55	\$1.83	\$9.77
1982	\$32.81	\$32.75	\$20.20	\$25.25	\$29.03	\$4.35	\$1.75	\$11.22
1983	\$30.08	\$30.00	\$21.27	\$24.79	\$30.08	\$4.51	\$1.81	\$12.88
1984	\$28.75	\$26.75	\$21.98	\$24.69	\$28.75	\$4.31	\$1.73	\$14.78

YEAR	MAJOR PRODUCER NET PROCEEDS (\$/BBL)	INDEPENDENT PRODUCER NET PROCEEDS (\$/BBL)	PERCENTAGE DEPLETION (\$/BBL)	50% TAX BRACKET AFTER TAX PROCEEDS WITH DEPLETION		50% TAX BRACKET AFTER TAX PROCEEDS WITHOUT DEPLETION		NET EFFECT OF REMOVAL OF DEPLETION (\$/BBL)
				MAJOR (\$/BBL)	INDEPENDENT (\$/BBL)	MAJOR (\$/BBL)	INDEPENDENT (\$/BBL)	
1974	\$1.93	\$1.93	\$1.34	\$0.97	\$1.64	\$0.97	\$0.97	\$0.67
1975	\$2.45	\$2.45	\$1.59	\$1.22	\$2.02	\$1.22	\$1.22	\$0.80
1976	\$2.36	\$2.36	\$1.72	\$1.18	\$2.04	\$1.18	\$1.18	\$0.86
1977	\$2.25	\$2.25	\$1.87	\$1.13	\$2.06	\$1.13	\$1.13	\$0.93
1978	\$2.15	\$2.15	\$2.04	\$1.07	\$2.09	\$1.07	\$1.07	\$1.02
1979	\$4.48	\$4.48	\$2.82	\$2.24	\$3.65	\$2.24	\$2.24	\$1.41
1980	\$8.61	\$11.20	\$4.67	\$4.30	\$7.93	\$4.30	\$5.60	\$2.33
1981	\$9.26	\$14.19	\$5.16	\$4.63	\$9.67	\$4.63	\$7.09	\$2.58
1982	\$7.93	\$11.71	\$4.44	\$3.96	\$8.08	\$3.96	\$5.85	\$2.22
1983	\$5.59	\$10.88	\$4.09	\$2.80	\$7.49	\$2.80	\$5.44	\$2.65
1984	\$3.87	\$7.93	\$3.67	\$1.93	\$5.80	\$1.93	\$3.96	\$1.83

TABLE FOUR

ESTIMATED PRE-TAX AND AFTER-TAX PROCEEDS
TO THE PRODUCER WITH AND WITHOUT PERCENTAGE DEPLETION
HIGH OPERATING COST

YEAR	AVERAGE CRUDE OIL PRICE (\$/BBL)	DECEMBER CRUDE OIL PRICE (\$/BBL)	WPT BASE CRUDE OIL PRICE (\$/BBL)	NET MAJOR STRIPPER CRUDE OIL PRICE (\$/BBL)	NET INDEPENDENT STRIPPER CRUDE OIL PRICE (\$/BBL)	ROYALTY (\$/BBL)	SEVERANCE TAX (\$/BBL)	HIGH OPERATING COST (\$/BBL)
1974	\$7.16	\$11.28	N.A.	\$7.16	\$7.16	\$1.07	\$0.43	\$3.85
1975	\$8.51	\$13.18	N.A.	\$8.51	\$8.51	\$1.28	\$0.51	\$4.56
1976	\$9.19	\$13.37	N.A.	\$9.19	\$9.19	\$1.38	\$0.55	\$5.42
1977	\$9.98	\$14.73	N.A.	\$9.98	\$9.98	\$1.50	\$0.60	\$6.43
1978	\$10.90	\$15.10	N.A.	\$10.90	\$10.90	\$1.64	\$0.66	\$7.63
1979	\$15.06	\$24.58	N.A.	\$15.06	\$15.06	\$2.26	\$0.91	\$9.05
1980	\$27.55	\$37.83	\$17.18	\$22.37	\$24.96	\$3.74	\$1.50	\$10.74
1981	\$35.26	\$36.22	\$18.84	\$25.41	\$30.34	\$4.55	\$1.83	\$12.74
1982	\$32.81	\$32.75	\$20.20	\$25.25	\$29.03	\$4.35	\$1.75	\$15.12
1983	\$30.08	\$30.00	\$21.27	\$24.79	\$30.08	\$4.51	\$1.81	\$17.94
1984	\$28.75	\$26.75	\$21.98	\$24.69	\$28.75	\$4.31	\$1.73	\$21.29

YEAR	MAJOR PRODUCER NET PROCEEDS (\$/BBL)	INDEPENDENT PRODUCER NET PROCEEDS (\$/BBL)	PERCENTAGE DEPLETION (\$/BBL)	50% TAX BRACKET AFTER TAX PROCEEDS WITH DEPLETION		50% TAX BRACKET AFTER TAX PROCEEDS WITHOUT DEPLETION		NET EFFECT OF REMOVAL OF DEPLETION (\$/BBL)
				MAJOR (\$/BBL)	INDEPENDENT (\$/BBL)	MAJOR (\$/BBL)	INDEPENDENT (\$/BBL)	
1974	\$1.81	\$1.81	\$1.34	\$0.90	\$1.57	\$0.90	\$0.90	\$0.67
1975	\$2.16	\$2.16	\$1.59	\$1.08	\$1.87	\$1.08	\$1.08	\$0.80
1976	\$1.84	\$1.84	\$1.72	\$0.92	\$1.78	\$0.92	\$0.92	\$0.86
1977	\$1.46	\$1.46	\$1.87	\$0.73	\$1.66	\$0.73	\$0.73	\$0.93
1978	\$0.98	\$0.98	\$2.04	\$0.49	\$1.51	\$0.49	\$0.49	\$1.02
1979	\$2.85	\$2.85	\$2.82	\$1.42	\$2.83	\$1.42	\$1.42	\$1.41
1980	\$6.38	\$8.97	\$4.67	\$3.19	\$6.82	\$3.19	\$4.49	\$2.33
1981	\$6.29	\$11.22	\$5.16	\$3.15	\$8.19	\$3.15	\$5.61	\$2.58
1982	\$4.03	\$7.81	\$3.90	\$2.01	\$5.86	\$2.01	\$3.90	\$1.95
1983	\$0.53	\$5.82	\$2.91	\$0.27	\$4.36	\$0.27	\$2.91	\$1.45
1984	(\$2.64)	\$1.42	\$0.71	(\$1.32)	\$1.07	(\$1.32)	\$0.71	\$0.36

TABLE FIVE

NATIONAL STRIPPER WELL SUMMARY
1954 - 1983

YEAR ENDING DECEMBER 31	NUMBER OF STRIPPER WELLS	NUMBER OF ABANDONMENTS	NUMBER OF ADDITIONS	AVERAGE DAILY PRODUCTION PER WELL (BPD)
1954	327,412	11,318	19,133	3.62
1955	345,126	9,968	27,682	3.68
1956	357,716	8,996	21,586	3.72
1957	359,803	8,651	10,738	3.62
1958	361,062	9,788	11,047	3.88
1959	376,735	11,451	27,124	3.88
1960	403,323	15,434	42,022	3.92
1961	406,102	16,977	19,756	3.99
1962	406,051	16,224	16,173	3.91
1963	401,031	14,363	9,343	3.79
1964	394,107	14,476	7,552	3.72
1965	398,299	15,456	19,648	4.05
1966	380,549	16,207	(1,543)	3.49
1967	376,851	14,986	11,288	3.63
1968	367,205	20,496	10,850	3.62
1969	358,650	15,618	7,063	3.47
1970	359,130	15,631	16,111	3.37
1971	353,696	18,421	12,987	3.58
1972	359,471	13,483	19,258	3.13
1973	355,229	13,756	9,514	2.97
1974	366,095	13,779	24,645	3.08
1975	367,872	13,478	15,255	2.93
1976	365,733	9,916	7,777	2.93
1977	368,930	9,000	12,197	2.91
1978	374,635	8,380	14,085	2.86
1979	386,310	7,668	19,343	2.79
1980	395,176	6,614	15,480	2.77
1981	409,539	7,215	21,578	2.85
1982	416,493	9,426	16,380	2.90
1983	441,501	11,032	36,040	2.87
1954-1983 MEAN	377,994	12,607	16,670	3.40
AVERAGE NUMBER OF ADDITIONS AND ABANDONMENTS			14,639	
MEAN STRIPPER WELL PRODUCING LIFE			25.8 YEARS	

TABLE SIX

SEFFECT

SUMMARY OF THE IMPACT OF THE REMOVAL OF PERCENTAGE
DEPLETION FOR STRIPPER WELL PROPERTIES

LOSS OF CRUDE OIL

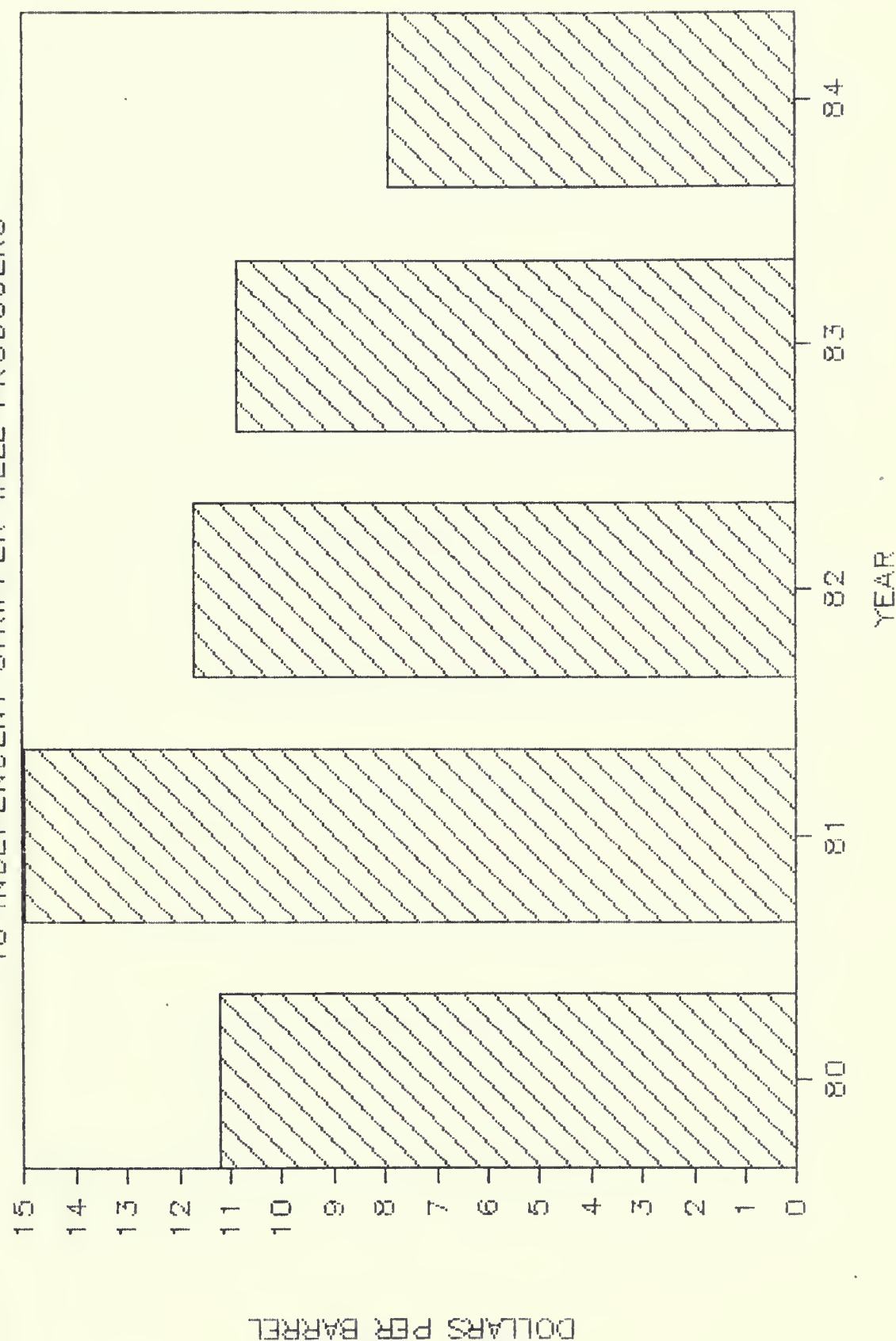
EFFECT OF REMOVAL OF PERCENTAGE DEPLETION	NATIONALLY	MONTANA
STRIPPER WELLS AS OF 1/1/1984	441,501	2,673
STRIPPER WELLS ABANDONED	36,597	222 Wells
OIL RESERVES LOST DUE TO PREMATURE ABANDONMENT*	849,000,000	5,140,140 Bbls.
REDUCED OIL PRODUCTION DUE TO:		
PREMATURE ABANDONMENT	78,910	518 BPD
DECREASED 1986 DRILLING	2,400	16 BPD
TOTAL	81,310	534 BPD
REDUCTION IN ANNUAL OIL AND GAS SALES	\$771,630,000	\$5,063,253 PER YEAR
REDUCTION IN ROYALTY PAYMENTS	\$115,700,000	\$759,488 PER YEAR
REDUCTION IN SEVERANCE TAX PAYMENTS	\$61,700,000	\$303,795 PER YEAR
REDUCTION IN 1986 DRILLING	\$308,600,000	\$2,025,301 PER YEAR
REDUCTION IN JOBS	70,200	461

* Reserves figure is cumulative. All others are first year only.

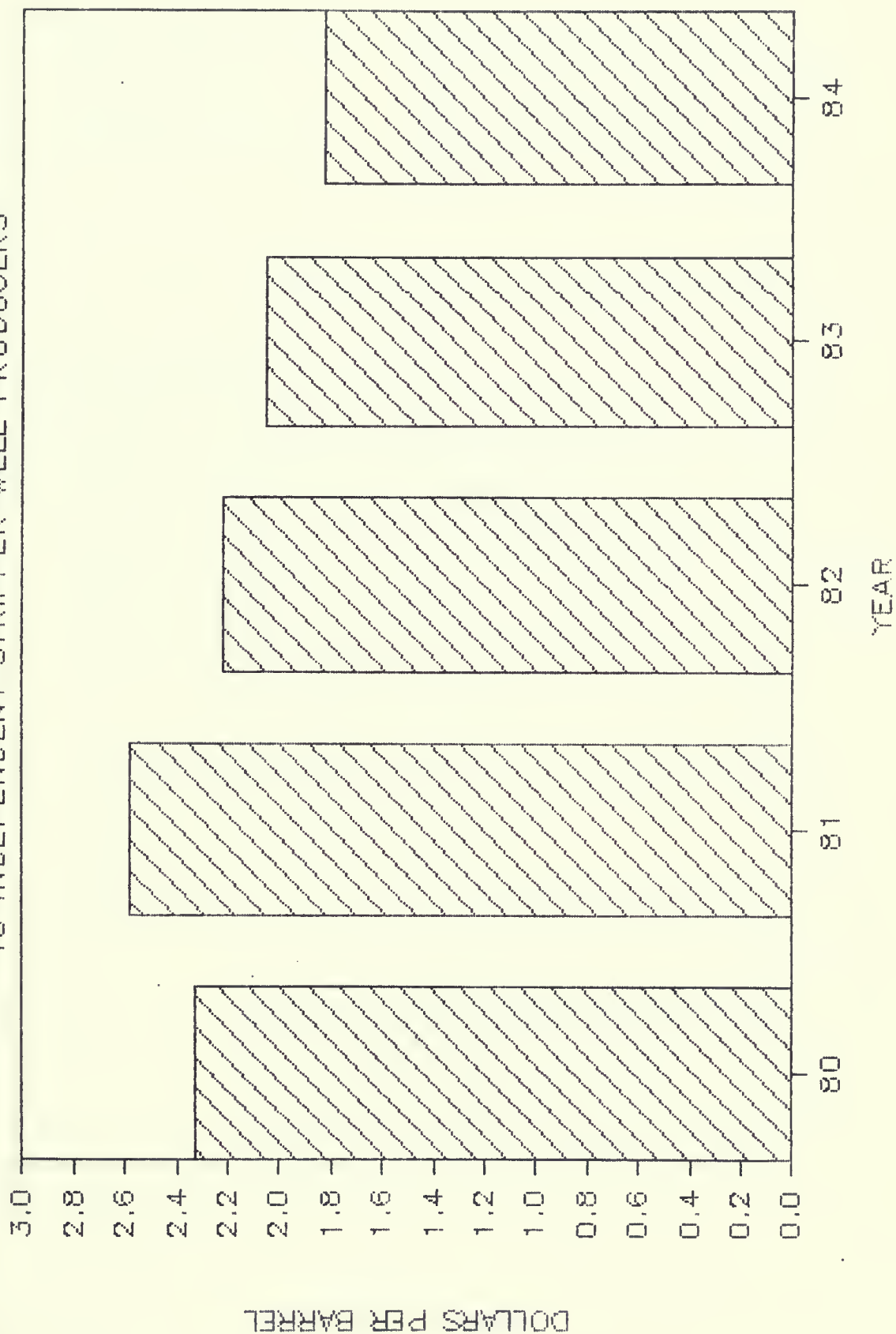
BASIS:

- Two out of every three stripper wells are operated by independents.
- Most stripper wells have zero cost basis resulting in no cost depletion being available.
- The removal of percentage depletion results in the shortening of stripper well economic life by 3.75 years.
- Stripper wells operated by independent producers generally are exempt from windfall profits taxes.
- For every one million dollars of oil and gas revenue lost, employment decreases by 91 jobs (39 direct jobs in the petroleum industry and 52 indirect jobs in other industries).
- The average wellhead crude oil price for stripper wells will be approximately \$26.00 per barrel in 1986.
- Every dollar in lost oil and gas revenue results in \$0.40 less spent to drill new wells.

NET PRE-TAX PROCEEDS TO INDEPENDENT STRIPPER WELL PRODUCERS



VALUE OF DEPLETION TO INDEPENDENT STRIPPER WELL PRODUCERS



NET AFTER-TAX PROCEEDS TO INDEPENDENT STRIPPER WELL PRODUCERS

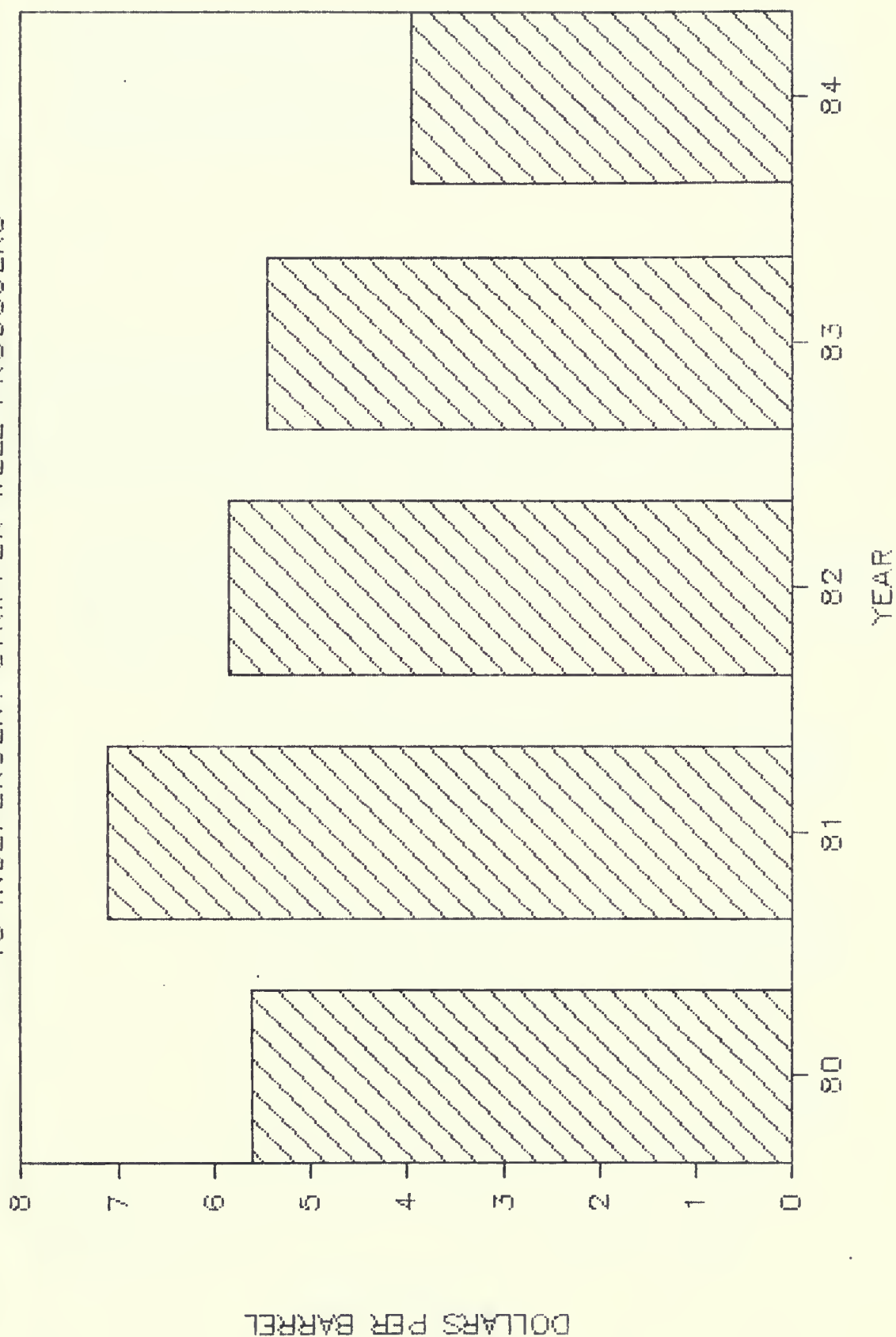
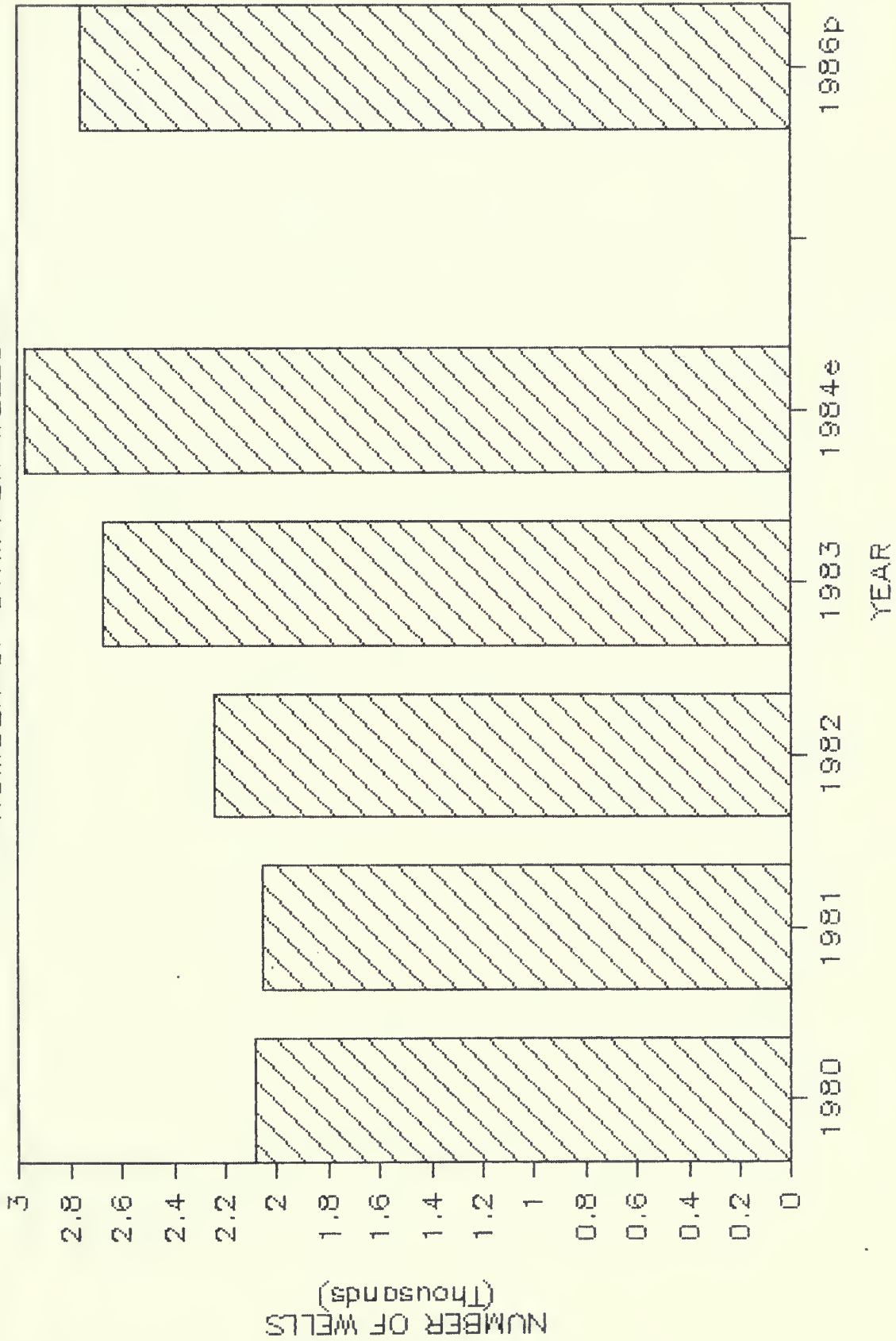


CHART FOUR

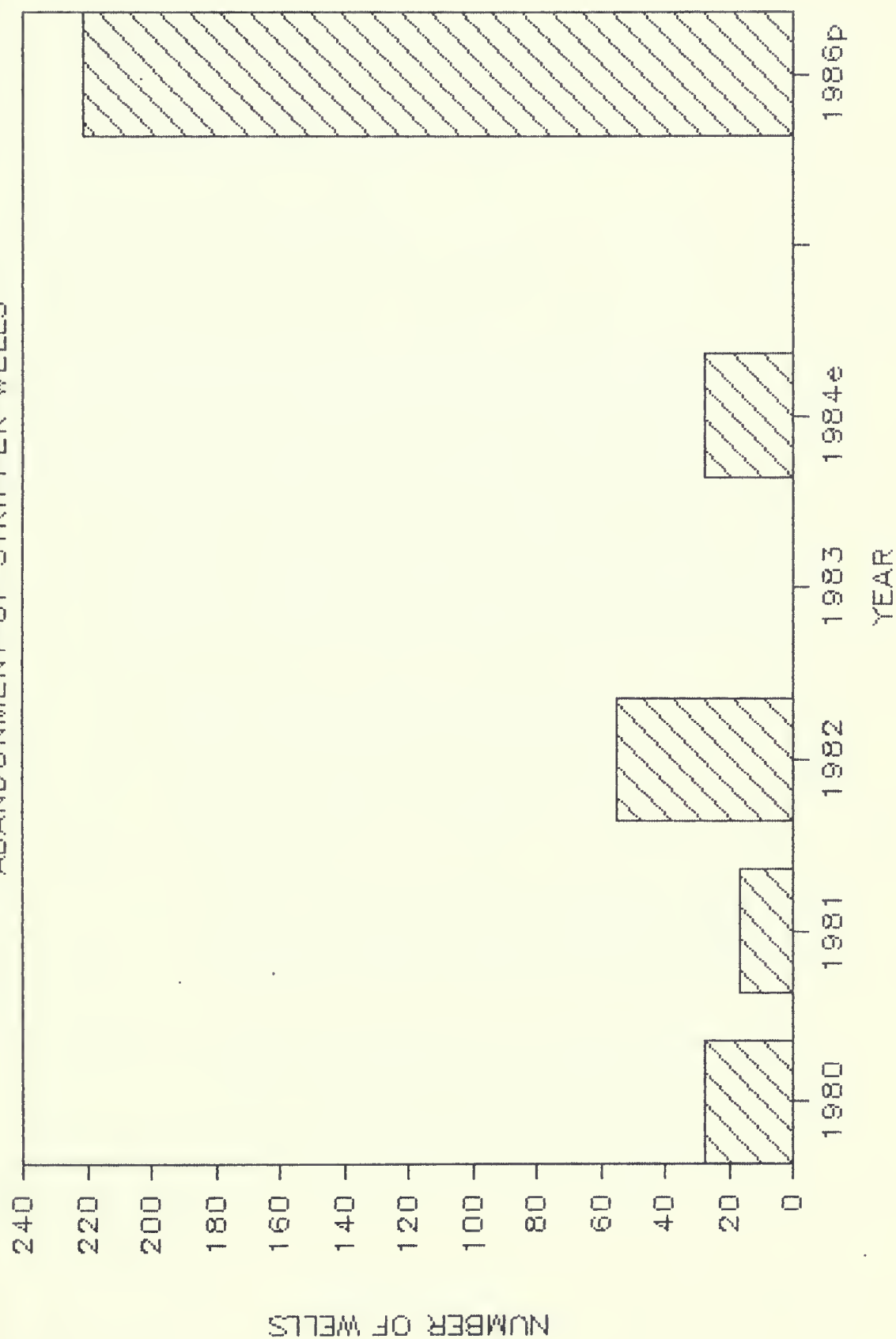
MONTANA

NUMBER OF STRIPPER WELLS



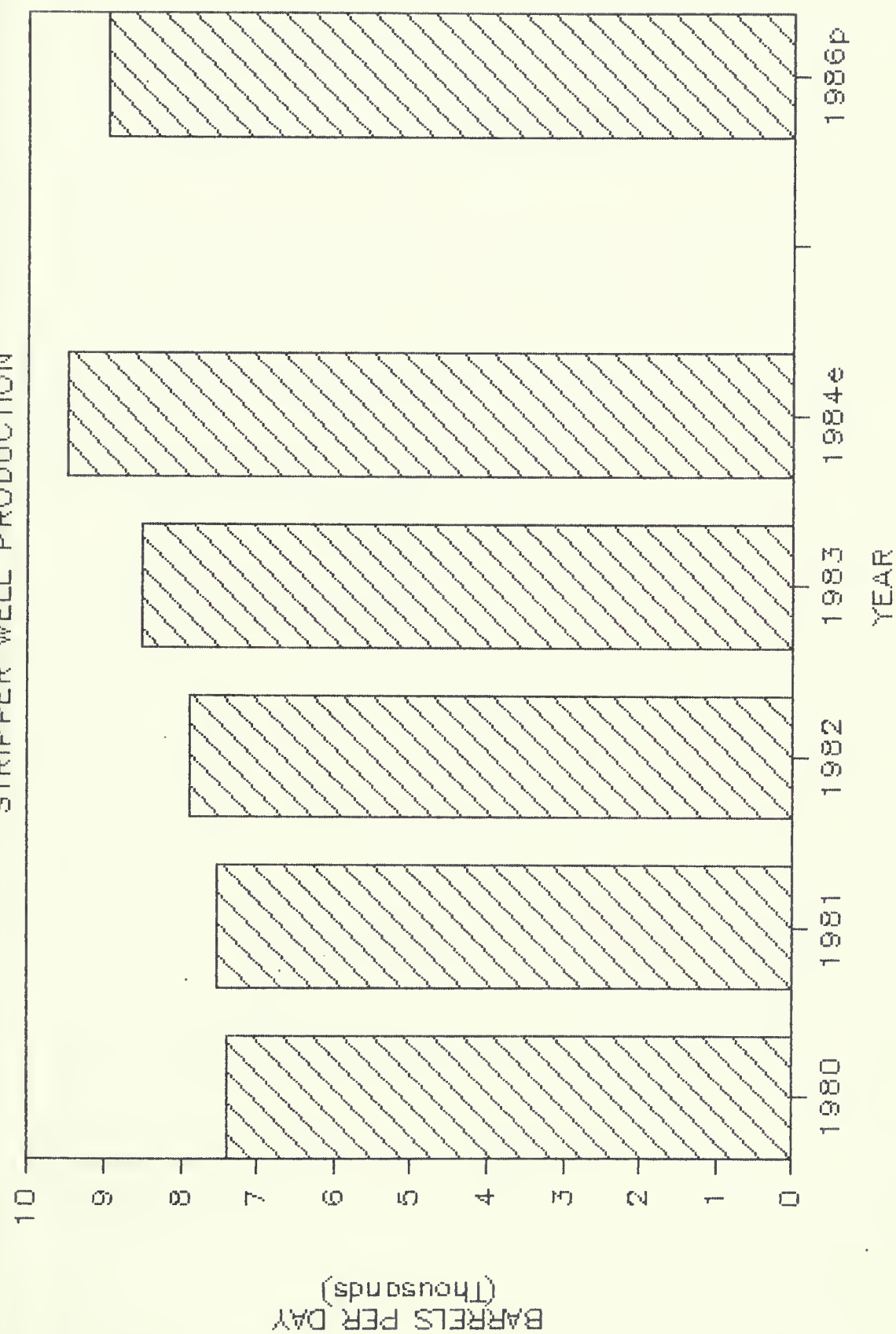
MONTANA

ABANDONMENT OF STRIPPER WELLS



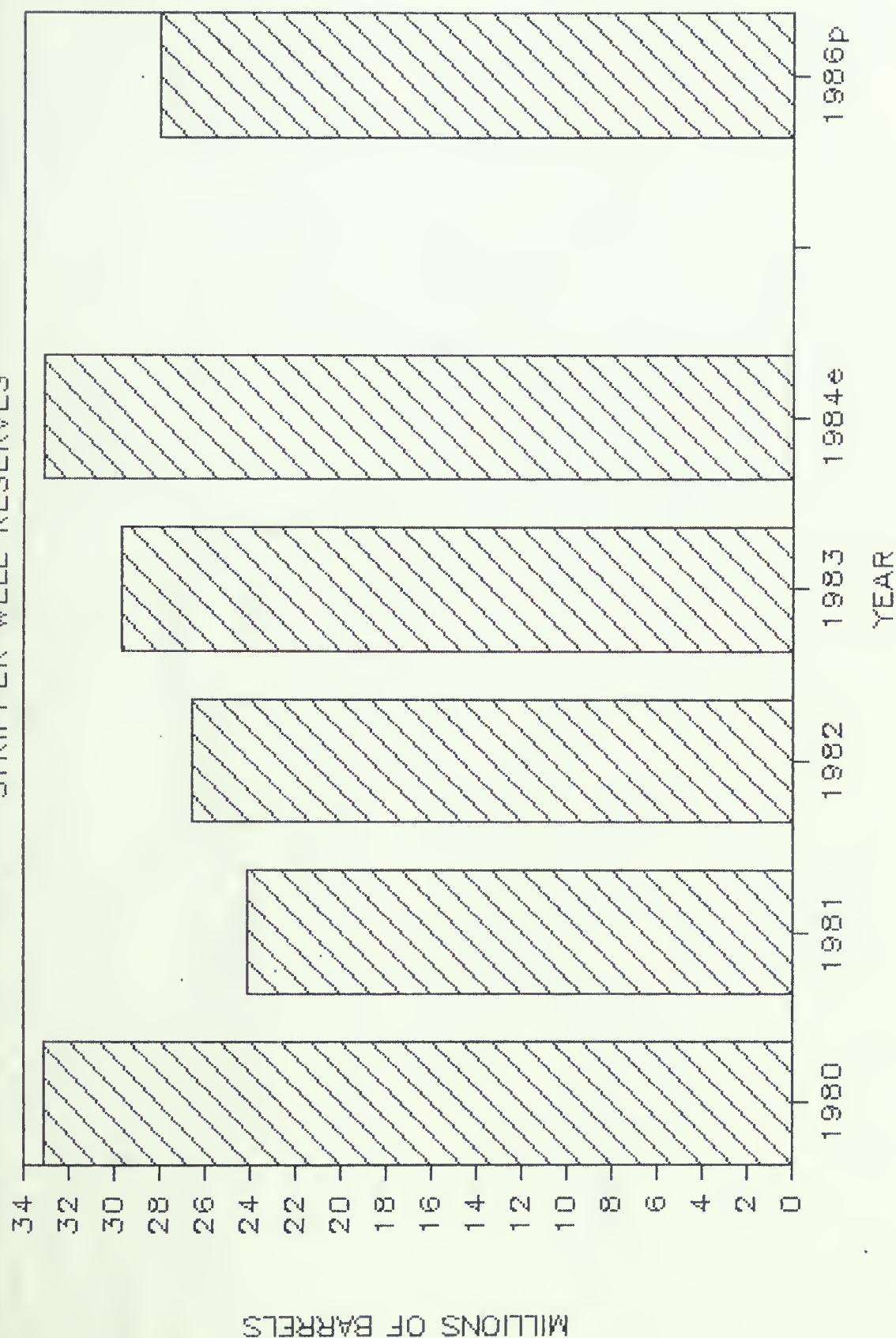
MONTANA

STRIPPER WELL PRODUCTION



MONTANA

STRIPPER WELL RESERVES





IMPACT OF FEDERAL TAX PROPOSALS ON ENHANCED OIL RECOVERY

Introduction

The purpose of this study is to forecast the impact of the Treasury Department's recent tax proposals on ongoing and projected enhanced oil recovery ("EOR") operations.

Enhanced oil recovery is the incremental oil that can be economically produced from a petroleum reservoir over that which can be economically recovered by conventional primary and secondary production methods. Primary methods rely on the natural reservoir energy to drive the oil through reservoir rock to producing wells. Over time, this natural energy drive dissipates, and energy must be added to the reservoir to produce significant amounts of additional oil.

Conventional secondary recovery methods introduce additional energy through the injection of water or gas, under pressure, into the formation at substantial additional costs. Enhanced oil recovery techniques are employed to achieve further production after primary and secondary recovery has been exhausted. Examples of enhanced oil recovery methods include: chemical flooding, miscible flooding, injection of carbon dioxide and thermal recovery.

Existing EOR projects currently account for 6% of U.S. daily oil production. The resource to which enhanced oil recovery may be applied in the future is very large, because conventional primary and secondary methods are expected to recover only about one-third of the oil originally discovered. Although much of the remaining two-thirds of the oil originally-in-place is not producible, a significant portion of this remaining resource constitutes the target for EOR.

Oil production by enhanced recovery is more costly than production by most conventional methods. Because of these high costs and heavy front-end investments required for most EOR projects, tax policies which reduce the after-tax cash flow available to producers will result in significant reductions in the number of projects undertaken and thus, the amount of oil recovered. Moreover, tax policies which hasten the abandonment of marginally economic fields remove the reserves remaining in the fields as potential resources for enhanced recovery.

The Treasury Department's recent tax proposals would effect several tax provisions that currently encourage EOR projects. These proposals would change depreciation schedules and repeal the following tax provisions: percentage depletion; the expensing on intangible drilling costs; the deduction of

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JOHN BURNET

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qualified tertiary injectant expenses; and, the investment tax credit. Although the Treasury Department proposal would also lower the marginal tax rate and repeal the Windfall Profit Tax, these favorable changes would be more than offset by the increased taxes resulting from the other changes described above.

Major Findings

The study found that the Treasury Department's tax proposals would have a significant negative impact on EOR projects. The reduced after-tax cash flow available to producers under the Treasury tax proposal would effect enhanced oil recovery in Montana in the years ahead as follows:

- oil production from EOR projects would be reduced by 23 million barrels;
- royalty payments would drop by \$86,000,000;
- property and severance tax payments would fall by \$43,000,000;
- state income tax collections would be reduced by \$11,000,000;
- federal income tax collections from third parties would fall by \$54,000,000;
- reductions in payments to suppliers of good and services would equal \$406,000,000;
- equipment purchases would fall by \$10,000,000;
- intangible drilling costs for EOR wells would decrease by \$19,000,000

Basis for Projections

These projections are based on an EOR data base and economic model developed by the Bartlesville Energy Center, and on "Enhanced Oil Recovery," a report by the National Petroleum Council to the Secretary of Energy, dated June 21, 1984.

IMPACT OF FEDERAL TAX PROPOSALS ON ENHANCED OIL RECOVERY (EOR)

	NATIONALLY	MONTANA
DUCTION IN EOR PRODUCTION	1,832	23 (MMBBLs)
DUCTION IN ROYALTY PAYMENTS	10,351	86 (MM \$)
DUCTION IN PROPERTY AND SEVERENCE TAX PAYMENTS	2,228	43 (MM \$)
DUCTION IN STATE INCOME TAX COLLECTIONS	635	11 (MM \$)
DUCTION IN FEDERAL INCOME TAX COLLECTIONS	1,313	54 (MM \$)
DUCTION IN PAYMENTS TO THIRD PARTIES	34,174	406 (MM \$)
DUCTION IN EQUIPMENT PURCHASES	2,250	10 (MM \$)
DUCTION IN IDC'S FOR EOR WELLS	896	19 (MM \$)

NOTE: All impacts are cumulative.

sis:

National Petroleum Council Enhanced Oil Recovery, June 21, 1984 Bartlesville
Energy Center EOR Data Base And Economic Model State By State.

Actual state by state current property and severence tax rates.

Actual state by state income tax rates.

Provisions of Treasury Secretary Regan's November 27, 1984 tax proposal regarding:

- Intangible investments
- Tertiary injectants
- Revised ACRS depreciation
- No tax credit
- Modified depreciation schedules
- Crude oil price of \$30.00 per barrel
- 10% rate of return on investment

ANALYSIS OF THE IMPACT OF THE PROPOSED TAX TREATMENT OF INTANGIBLE DRILLING COSTS ON DRILLING EXPENDITURES, WELLS DRILLED, EMPLOYMENT & RESERVES FOUND - 1986- 1991

1984 DRILLING RIGS	2248
1983 WELL COST	\$371,721
GPT TAX RATE	6.00%

CURRENT LAW				TREASURY PROPOSAL				REDUCTION IN			
	TOTAL CASH AVAILABLE FOR DRILLING EXPENDITURES (\$mm)	J.A.S. DRILLING EXPENDITURES (\$mm)	J.A.S. DRILLING EXPENDITURES (\$mm)	TOTAL CASH AVAILABLE FOR DRILLING EXPENDITURES (\$mm)	REDUCTION IN DRILLING EXPENDITURES (\$mm)	REDUCTION IN DRILLING EMPLOYMENT (JOBS)	REDUCTION IN TOTAL WELLS DRILLED	REDUCTION IN DRILLING RIG ACTIVITY	REDUCTION IN RESERVES ADDED (mmBOE)	REDUCTION IN DAILY PRODUCTION (BOE/DAY)	
80	\$22,800	\$22,800	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
81	\$36,665	\$36,665	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
82	\$39,428	\$39,428	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
83	\$25,105	\$25,105	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
84	\$25,105	\$25,105	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
86	\$25,105	\$25,105	\$15,163	\$15,163	\$9,941	497,066	26,744	890	828	79,440	
87	\$25,105	\$25,105	\$10,308	\$10,308	\$14,797	739,827	39,805	1,325	1,233	345,208	
88	\$25,105	\$25,105	\$12,508	\$12,508	\$12,596	629,1820	33,887	1,128	1,050	722,190	
89	\$25,105	\$25,105	\$12,026	\$12,026	\$13,079	653,927	35,184	1,171	1,090	1,052,693	
90	\$25,105	\$25,105	\$12,393	\$12,393	\$12,712	635,592	34,197	1,138	1,059	1,307,298	
91	\$25,105	\$25,105	\$12,576	\$12,576	\$12,529	626,425	33,704	1,122	1,044	1,522,928	
TOTAL	\$150,627	\$150,627	\$74,974	\$74,974	\$75,653	n.a.	203,521	n.a.	6,304	n.a.	
AVERAGE	\$25,105	\$25,105	\$12,496	\$12,496	\$12,609	630,443	33,920	1,129	1,051	838,293	

AVERAGE IMPACT 1986-91:

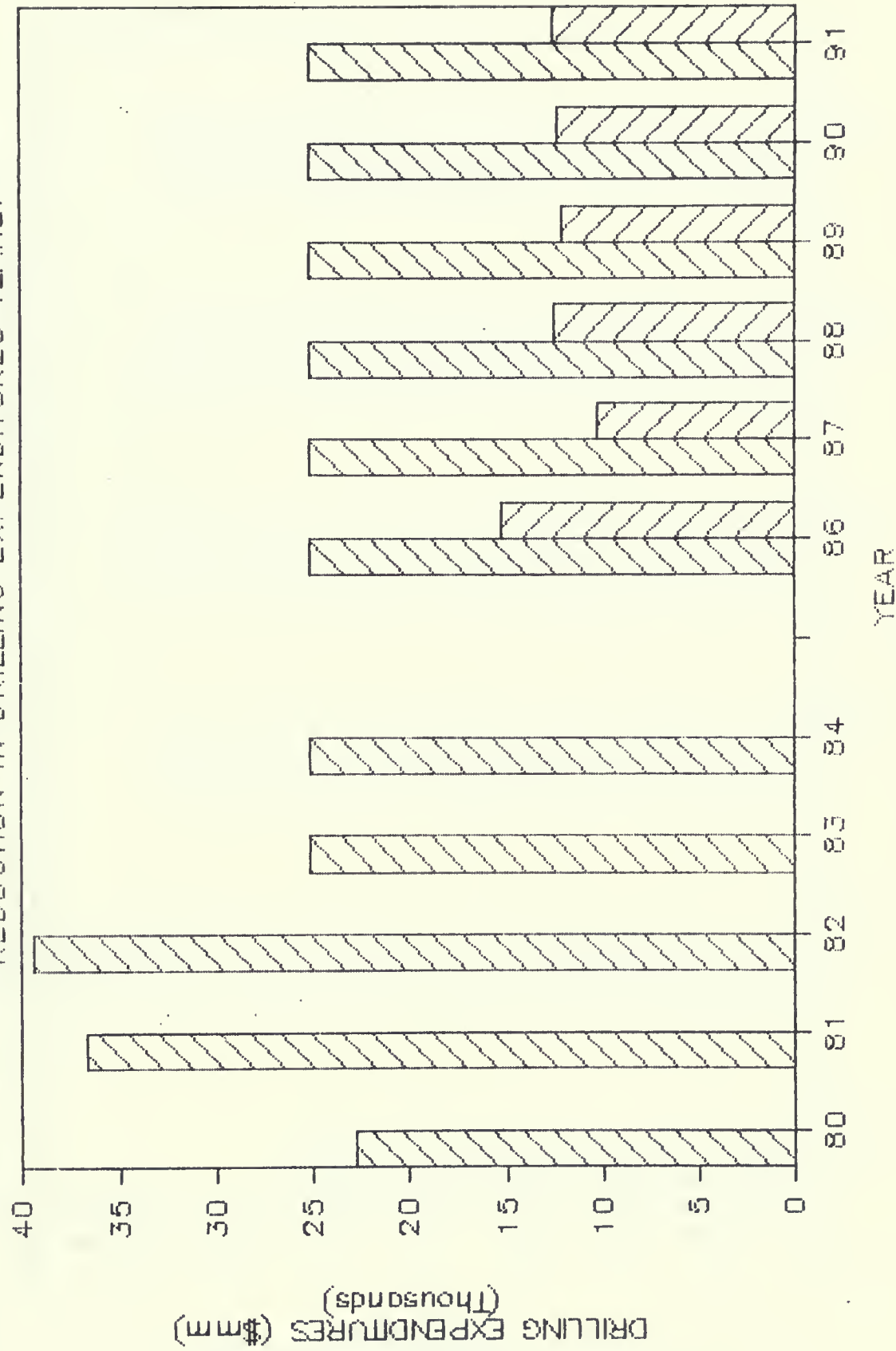
REDUCTION IN DRILLING EXPENDITURES YEARLY	\$12,609 MILLION
REDUCTION IN EMPLOYMENT DUE TO REDUCED DRILLING:	
REDUCTION IN NUMBER OF WELLS DRILLED YEARLY	630,443 JOBS
REDUCTION IN DRILLING RIG RUNNING YEARLY	33,920 WELLS
REDUCTION IN RESERVES ADDED AT \$12.00 PER BOE:	
REDUCTION IN DAILY OIL AND GAS PRODUCTION:	1,129 RIGS
REDUCTION IN OIL AND GAS SALES:	6,304 MBOE
REDUCTION IN STATE GPT COLLECTIONS:	\$360 MILLION
	\$88,293 BOE/DAY
	\$6,006 MILLION

ASSUMPTIONS:

INDUSTRY EXPENDITURES ARE REDUCED BY ONE-THIRD IN 1986 DUE TO UNCERTAINTY AND REDUCED THIRD PARTY FUNDING THIRD PARTY FUNDING IS REDUCED BY ONE-HALF IN 1986 DUE TO UNCERTAINTY IN TAX TREATMENT
AFTER 1986 INDUSTRY EXPENDITURES REMAIN AT TWO-THIRDS OF 1984 LEVELS + OR - REDUCED CASH FLOW FROM ACCELERATED TAX PAYMENTS.
AFTER 1986, THIRD PARTY FUNDING REMAIN AT ONE-HALF OF 1984 LEVELS + OR - REDUCED CASH FLOW FROM ACCELERATED TAX PAYMENTS.
1986 AVERAGE WELLHEAD PRICE WAS \$19.63/BOE.
A REDUCTION IN DRILLING EXPENDITURES OF ONE MILLION DOLLARS RESULTS IN A LOSS OF 50 JOBS.

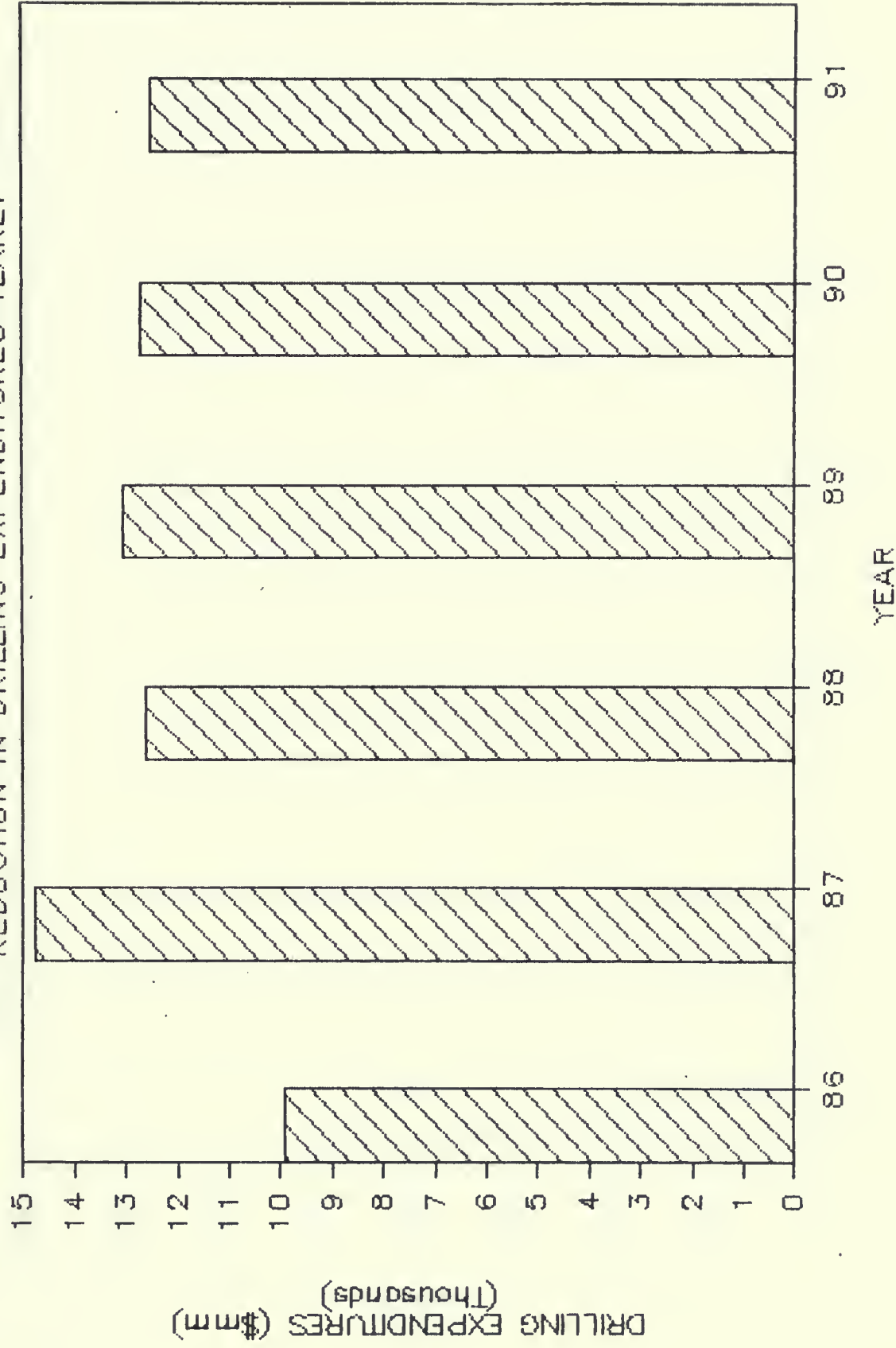
U.S. IMPACT OF IDC TAX PROPOSAL

REDUCTION IN DRILLING EXPENDITURES YEARLY



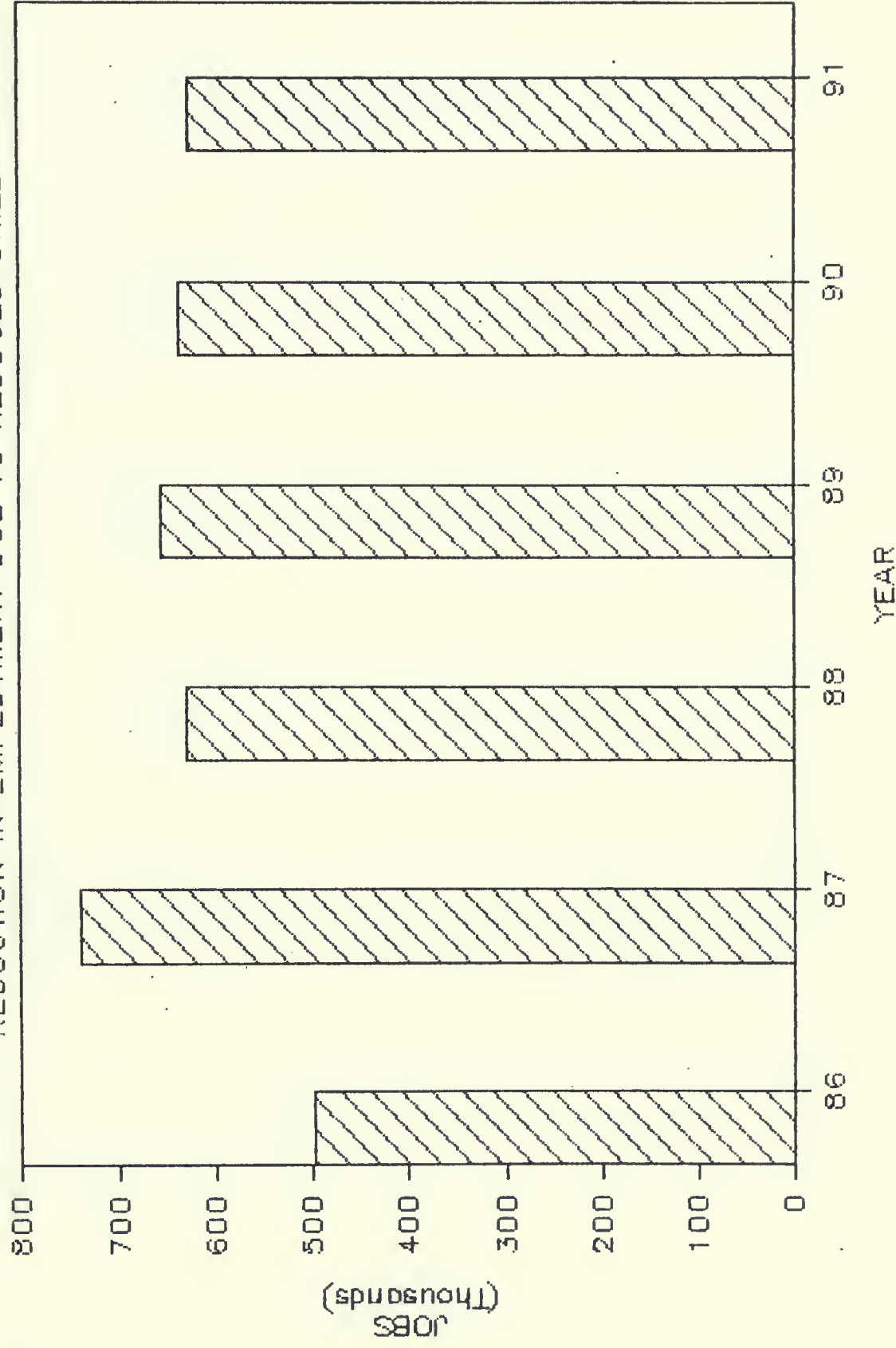
U.S. IMPACT OF IDC TAX PROPOSAL

REDUCTION IN DRILLING EXPENDITURES YEARLY



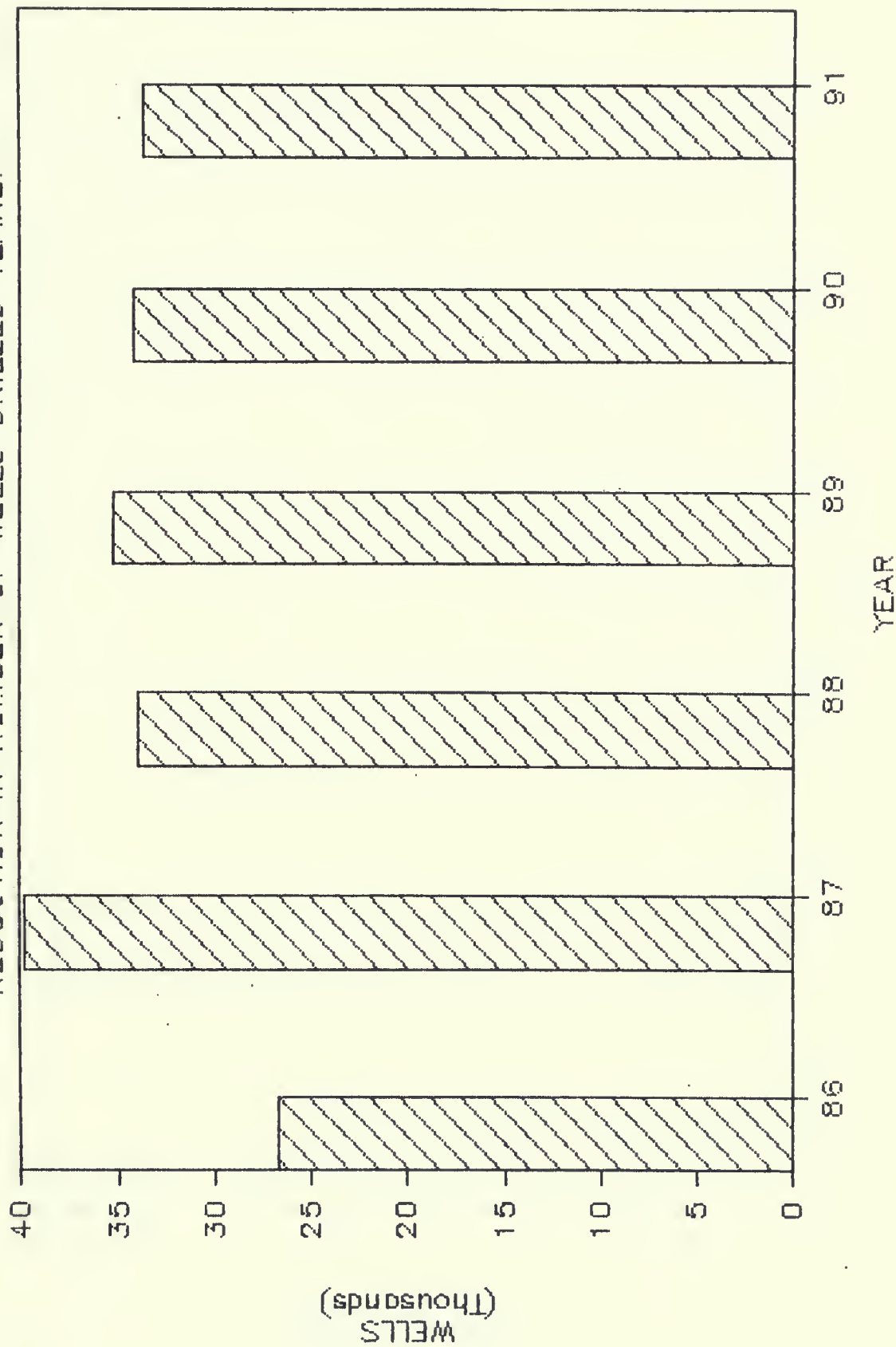
U.S. IMPACT OF IDC TAX PROPOSAL

REDUCTION IN EMPLOYMENT DUE TO REDUCED DRILLING:



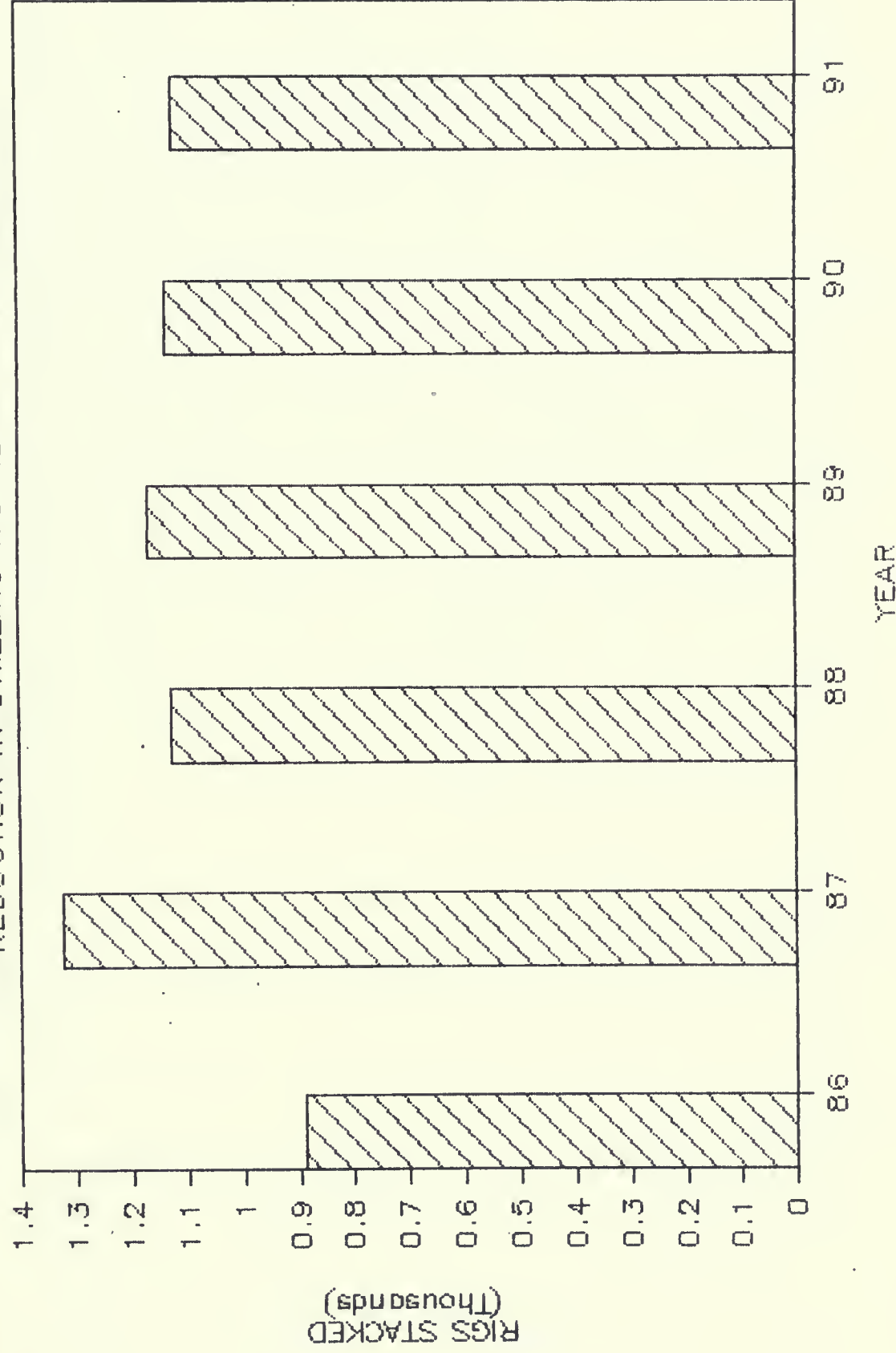
U.S. IMPACT OF IDC TAX PROPOSAL

REDUCTION IN NUMBER OF WELLS DRILLED YEARLY



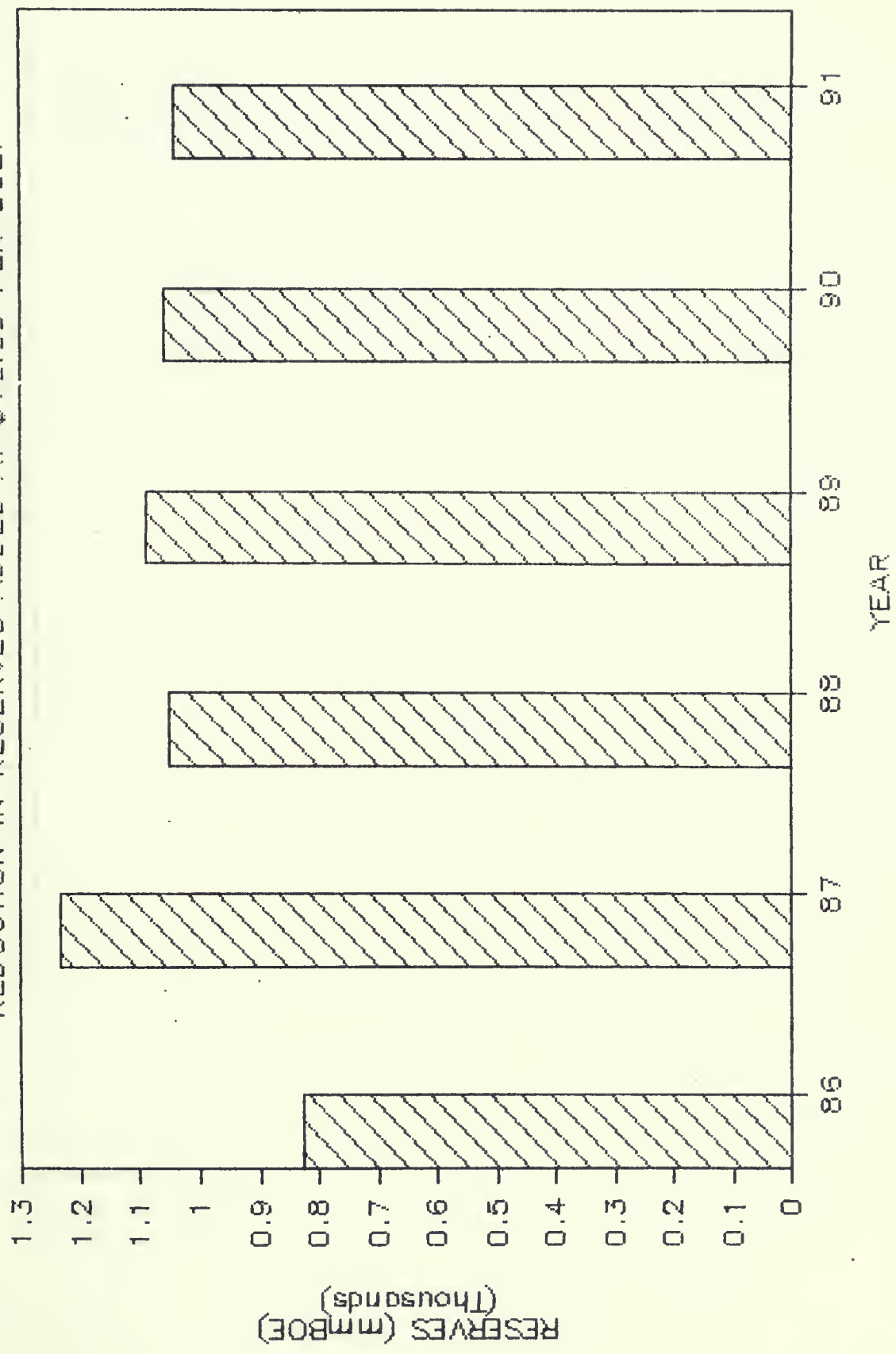
U.S. IMPACT OF IDC TAX PROPOSAL

REDUCTION IN DRILLING RIG RUNNING YEARLY



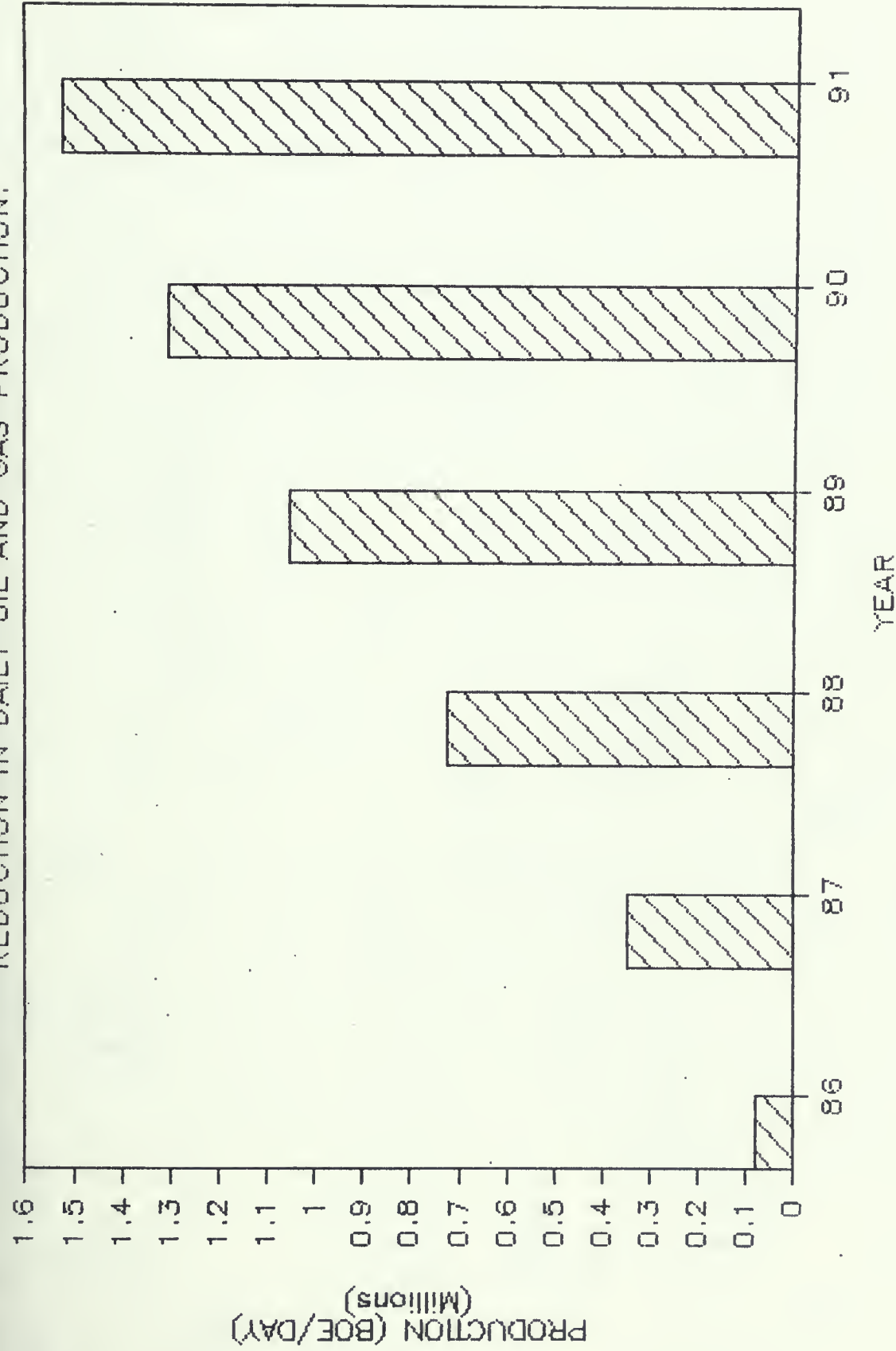
U.S. IMPACT OF IDC TAX PROPOSAL

REDUCTION IN RESERVES ADDED AT \$12.00 PER BOE:



U.S. IMPACT OF IDC TAX PROPOSAL

REDUCTION IN DAILY OIL AND GAS PRODUCTION:

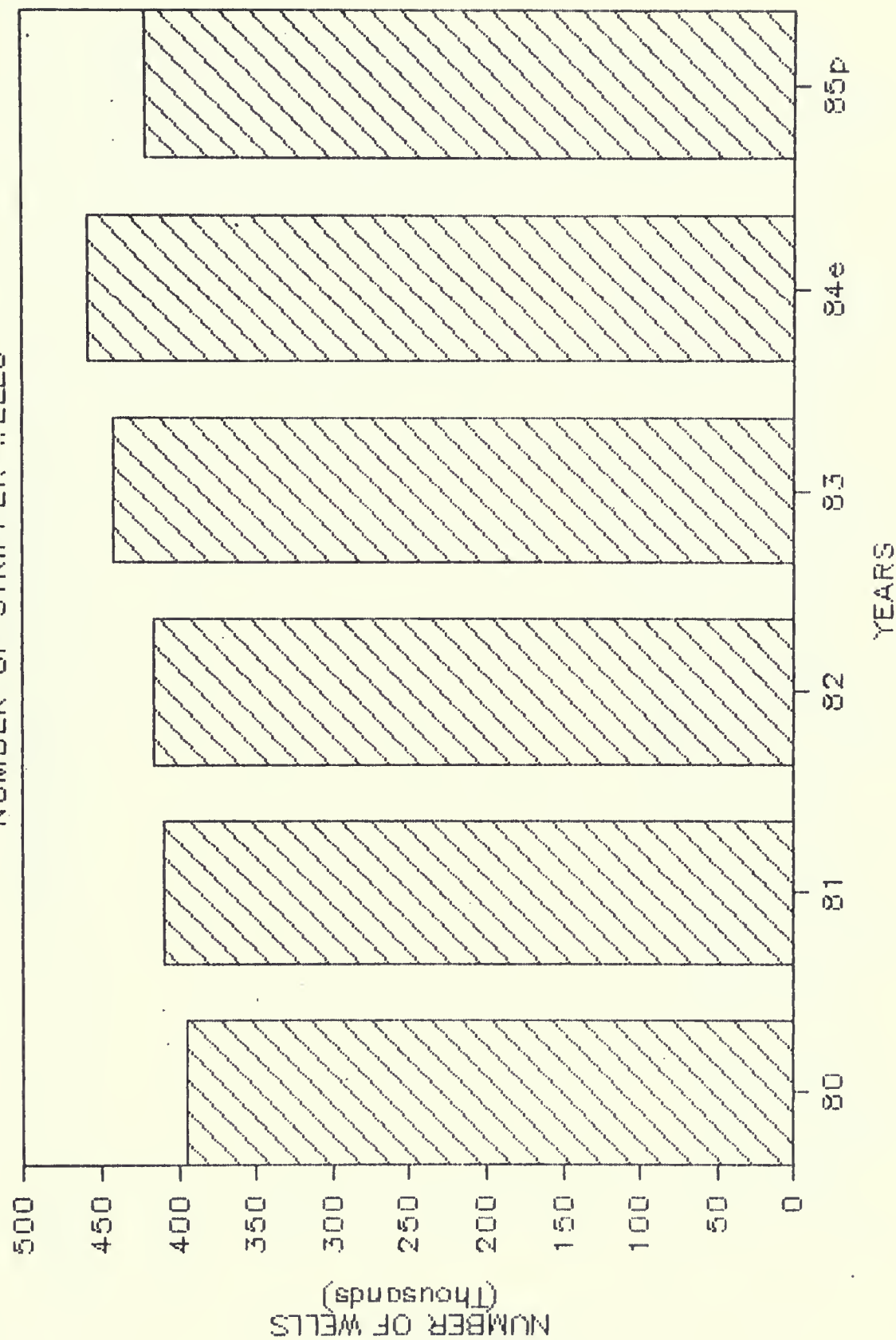


NATIONAL
STRIPPER WELL STATISTICS
1970 - 1983

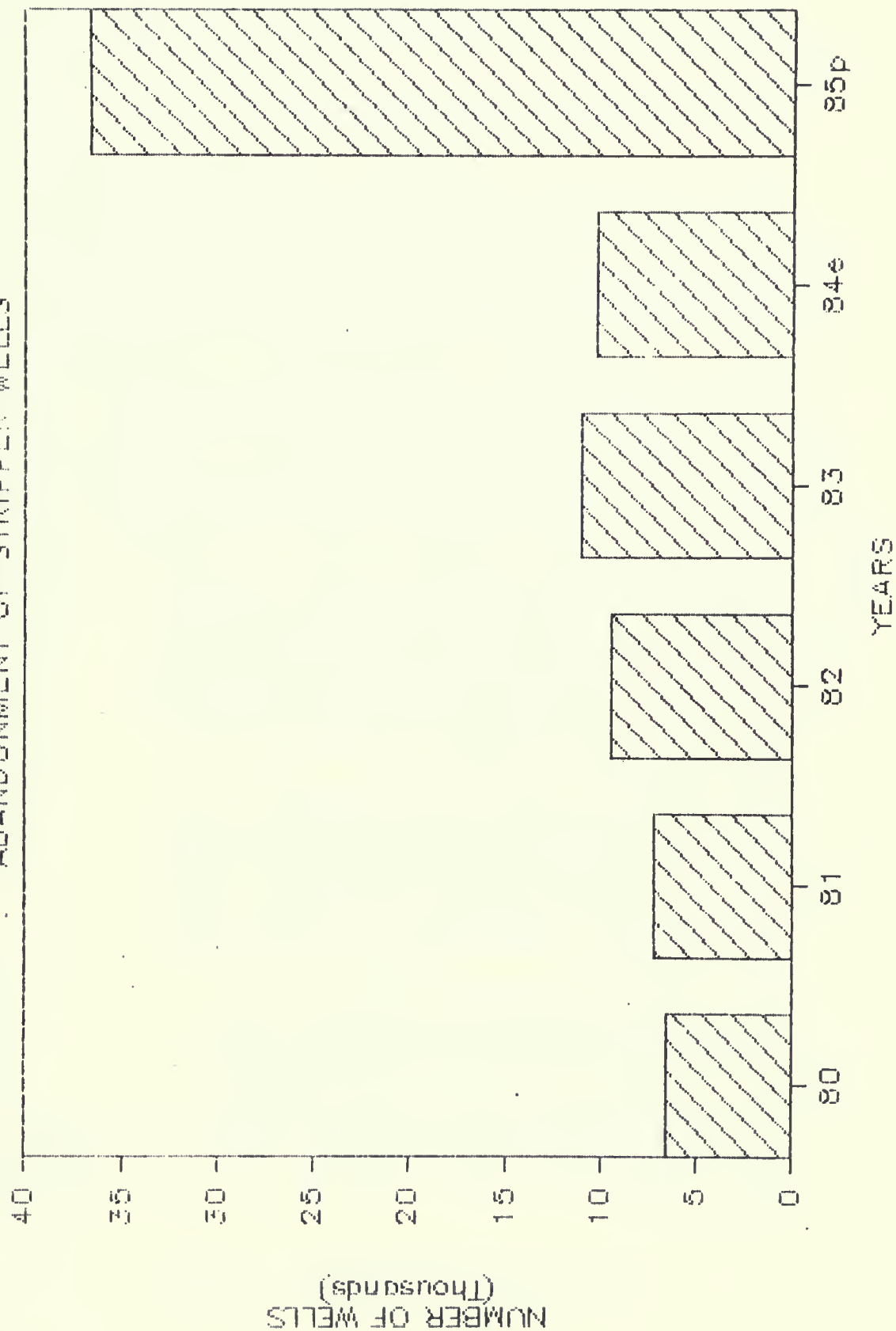
YEAR	STRIPPER WELL			ACRES	AVERAGE DAILY PRODUCTION PER STRIPPER WELL (BPD)	TOTAL STRIPPER WELL		TOTAL STRIPPER WELL		STRIPPER WELL RESERVES				
	NUMBER	ABANDONMENTS	ADDITIONS			ANNUAL PRODUCTION (MBBLS)	TOTAL PRODUCTION (MBBLS)	NATIONAL TOTAL PRODUCTION (MBBLS)	AVERAGE DAILY PRODUCTION (BPD)	NATIONAL AVERAGE PRODUCTION (BPD)	PERCENT STRIPPER PRODUCTION	PRIMARY (MBBLS)	SECONDARY (MBBLS)	TOTAL (MBBLS)
1970	359,130	15,631	16,111	8,760,454	3.37	441.29	3,375.90	1,209,006	9,249,033	13.07%	2761.22	2197.99	4959.21	
1971	353,696	18,421	12,987	8,761,081	3.58	423.32	3,223.40	1,159,786	8,831,230	13.13%	2659.90	2161.46	4821.35	
1972	359,471	13,483	19,258	8,629,986	3.13	411.92	3,345.21	1,125,478	9,139,915	12.31%	2855.86	2026.04	4881.90	
1973	355,229	13,756	9,514	8,741,387	2.97	385.68	3,206.44	1,056,667	8,784,753	12.03%	2981.80	1877.18	4858.97	
1974	366,095	13,779	24,645	8,964,465	3.08	411.94	3,048.06	1,128,592	8,350,836	13.51%	3020.19	1866.26	4886.44	
1975	367,872	13,478	15,255	9,218,949	2.93	394.16	2,804.68	1,079,898	7,684,063	14.05%	3004.29	1841.43	4845.72	
1976	365,733	9,916	7,777	9,299,620	2.93	392.19	2,730.86	1,071,559	7,461,366	14.36%	2868.00	2008.32	4876.32	
1977	368,930	9,000	12,197	9,423,161	2.91	392.53	2,672.82	1,075,430	7,322,795	14.69%	2901.35	2012.67	4914.03	
1978	374,635	8,380	14,085	8,931,712	2.86	391.63	2,552.07	1,072,968	6,991,984	15.35%	2892.65	2107.25	4999.90	
1979	386,310	7,668	19,343	9,154,803	2.79	394.41	2,420.48	1,080,562	6,631,444	16.29%	3003.95	2165.19	5169.14	
1980	395,176	6,614	15,480	9,664,125	2.77	401.10	2,461.10	1,095,889	6,724,309	16.30%	3052.30	2130.24	5184.01	
1981	409,539	7,215	21,578	9,683,564	2.85	426.50	2,137.97	1,168,500	5,857,458	19.95%	2628.59	1798.37	4426.96	
1982	416,493	9,426	16,380	9,720,451	2.90	441.95	2,072.51	1,210,825	5,678,107	21.32%	2594.03	1860.37	4454.40	
1983	441,501	11,032	36,040	10,411,234	2.87	462.01	2,125.02	1,265,790	5,821,973	21.74%	2579.65	2011.16	4590.81	
1984e	457,482	10,229	26,210	10,788,089	2.87	480.55	2,125.02	1,316,571	5,821,973	22.61%	2683.13	2091.85	4774.98	
1985p	420,885	36,597	0	9,925,079	2.93	450.87	2,095.34	1,235,261	5,740,663	21.52%	2205.82	1719.72	3925.53	

* TOTAL PRODUCTION FROM THE STATES INCLUDED IN THE NATIONAL STRIPPER WELL SURVEY, 1971-1984

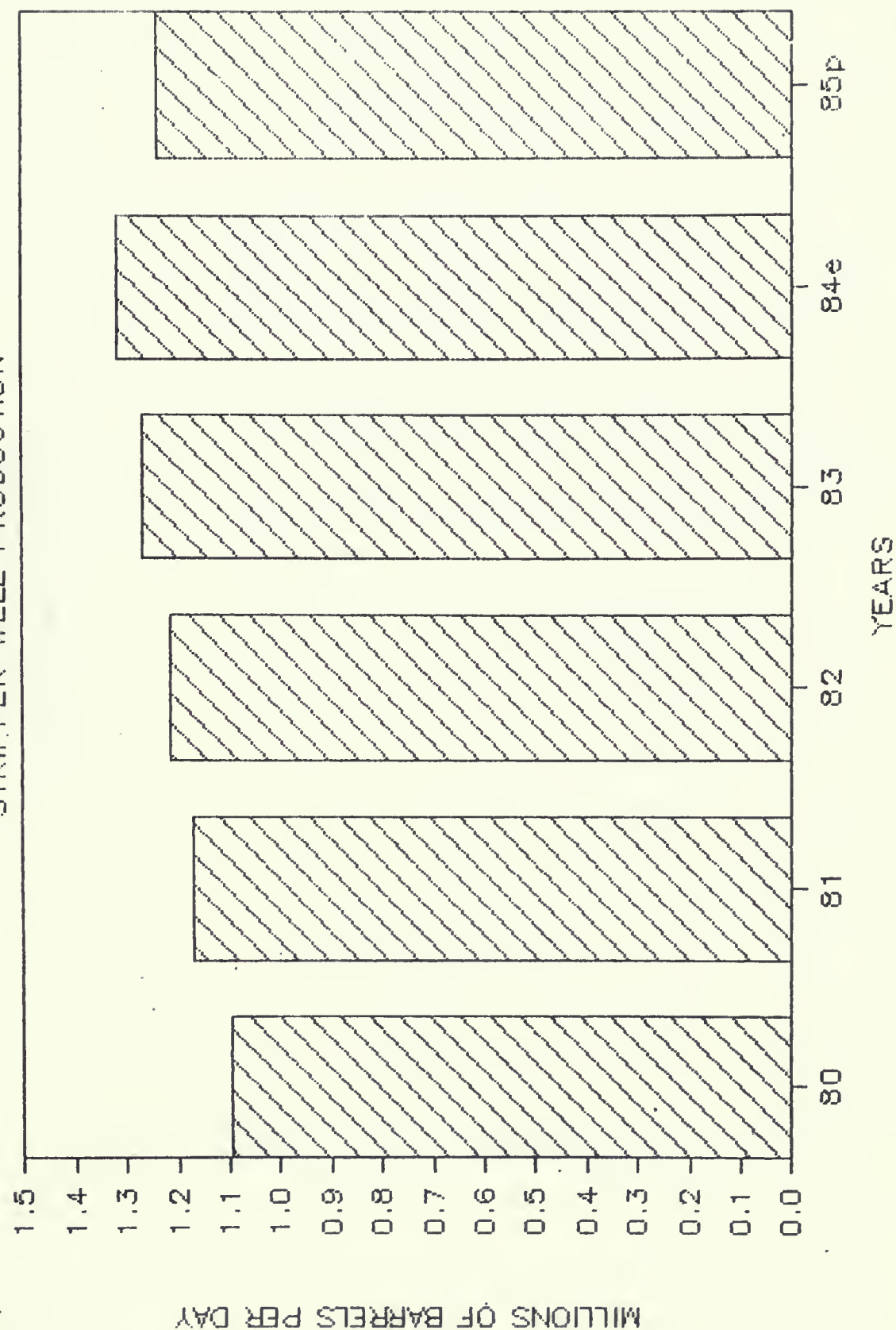
NATIONAL NUMBER OF STRIPPER WELLS



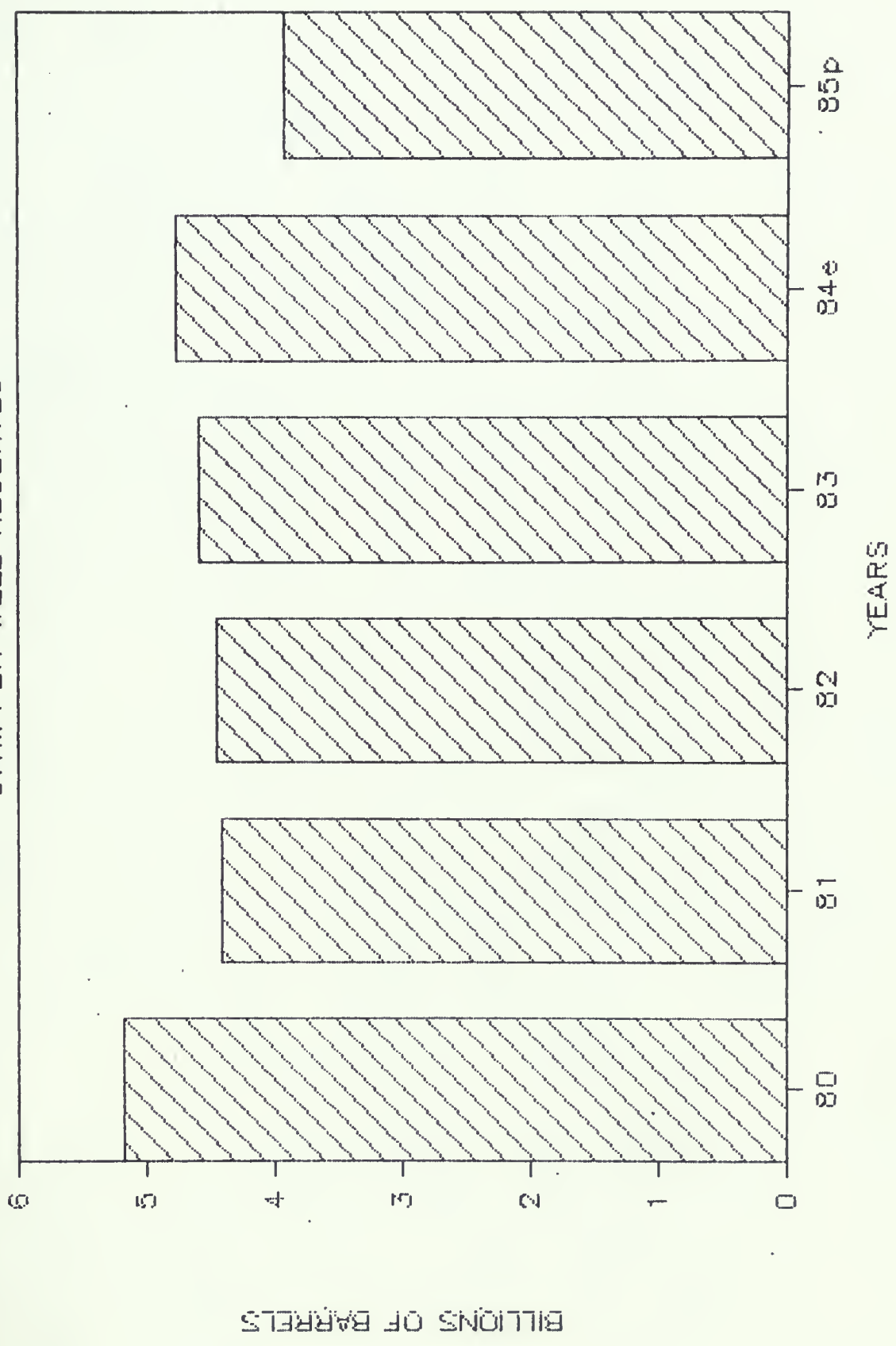
NATIONAL ABANDONMENT OF STRIPPER WELLS



NATIONAL STRIPPER WELL PRODUCTION



NATIONAL STRIPPER WELL RESERVES



IMPACT OF FEDERAL TAX PROPOSALS ON ENHANCED OIL RECOVERY (EOR)

KANSAS*

FLORIDA*

COLORADO*

CALIFORNIA*

ARKANSAS*

ALASKA*

U.S.*

(Millions of Dollars)

REDUCTIONS

IN ROYALTY PAYMENTS	10,351	184	77	1,221	200	42	65
IN PROPERTY & SEVERANCE TAX PAYMENTS	2,228	8	32	245	76	17	42
IN STATE INCOME TAX COLLECTIONS	635	66	17	77	9	6	(1)
IN FEDERAL INCOME TAX COLLECTIONS	1,313	(220)	74	(1,473)	4	(25)	(72)
IN PAYMENTS TO THIRD PARTIES	34,174	1,404	428	7,978	947	194	332
IN EQUIPMENT PURCHASES	2,250	14	6	(887)	26	3	9
IN IDC'S FOR EOR WELLS	896	8	5	44	75	32	212
TOTAL	51,847	1,464	639	7,205	1,337	269	587
IN EOR PRODUCTION [#]	1,832	94	21	423	54	6	17

* All impacts are cumulative.

[#] Millions of barrels.

Basis:

- National Petroleum Council Enhanced Oil Recovery, June, 1984 and Bartlesville Project Office (DOE) EOR Data Base and Economic Model.
- Actual state by state current property and severance tax rates.
- Actual state by state income tax rates.
- Provisions of Secretary Regan's November, 1984 tax proposal regarding:
 - Intangible investments
 - Tertiary injectants
 - Revised ACRS depreciation
 - No tax credit
 - Modified depreciation schedules
 - Crude oil price of \$30.00 per barrel
 - 10% rate of return on investment

IMPACT OF FEDERAL TAX PROPOSALS ON ENHANCED OIL RECOVERY EOR

REDUCTIONS	U.S.*	KENTUCKY*	LOUISIANA*	MISSISSIPPI*	MONTANA*	NEBRASKA*	NEW MEXICO*
	(Millions of Dollars)						
IN ROYALTY PAYMENTS	10,351	0	(48)	60	86	29	806
IN PROPERTY & SEVERANCE TAX PAYMENTS	2,228	0	75	29	43	8	530
IN STATE INCOME TAX COLLECTIONS	635	4	(58)	6	11	3	92
IN FEDERAL INCOME TAX COLLECTIONS	1,313	13	(136)	28	54	12	353
IN PAYMENTS TO THIRD PARTIES	34,174	75	311	250	406	161	3,471
IN EQUIPMENT PURCHASES	2,250	0	(3)	8	10	5	95
IN IDC'S FOR EOR WELLS	896	0	(45)	29	19	2	271
TOTAL	51,847	92	96	410	629	220	5,618
IN EOR PRODUCTION#	1,832	0	(14)	16	23	8	288

* All impacts are cumulative.

Millions of barrels.

Basis:

- National Petroleum Council Enhanced Oil Recovery, June, 1984 and Bartlesville Project Office (DOE) EOR Data Base and Economic Model.
- Actual state by state current property and severance tax rates.
- Actual state by state income tax rates.
- Provisions of Secretary Regan's November, 1984 tax proposal regarding:
 - Intangible Investments
 - Tertiary Injectants
 - Revised ACRS depreciation
 - No tax credit
 - Modified depreciation schedules
 - Crude oil price of \$30.00 per barrel
 - 10% rate of return on investment

IMPACT OF FEDERAL TAX PROPOSALS ON ENHANCED OIL RECOVERY EOR

	U.S.*	NORTH DAKOTA*	OKLAHOMA*	TEXAS*	UTAH*	WYOMING*	OTHER*
	----- (Millions of Dollars) -----						
REDUCTIONS							
IN ROYALTY PAYMENTS	10,351	193	768	1,558	(4)	41	5,073
IN PROPERTY & SEVERANCE TAX PAYMENTS	2,228	177	435	567	0	21	(77)
IN STATE INCOME TAX COLLECTIONS	635	34	70	0	(9)	0	308
IN FEDERAL INCOME TAX COLLECTIONS	1,313	82	469	(693)	(109)	(38)	2,990
IN PAYMENTS TO THIRD PARTIES	34,174	913	3,629	9,656	(26)	227	3,818
IN EQUIPMENT PURCHASES	2,250	23	60	432	0	6	2,443
IN IDC'S FOR EOR WELLS	896	41	69	408	0	(19)	(255)
TOTAL	51,847	1,463	5,500	11,928	(148)	238	14,300
IN EOR PRODUCTION [#]	1,832	51	209	465	(1)	12	

* All impacts are cumulative.

[#] Millions of barrels.

Basis:

- National Petroleum Council Enhanced Oil Recovery, June, 1984 and Bartlesville Project Office (DOE) EOR Data Base and Economic Model.
- Actual state by state current property and severance tax rates.
- Actual state by state income tax rates.
- Provisions of Secretary Regan's November, 1984 tax proposal regarding:
 - Intangible investments
 - Tertiary injectants
 - Revised ACRS depreciation
 - No tax credit
 - Modified depreciation schedules
 - Crude oil price of \$30.00 per barrel
 - 10% rate of return on investment

